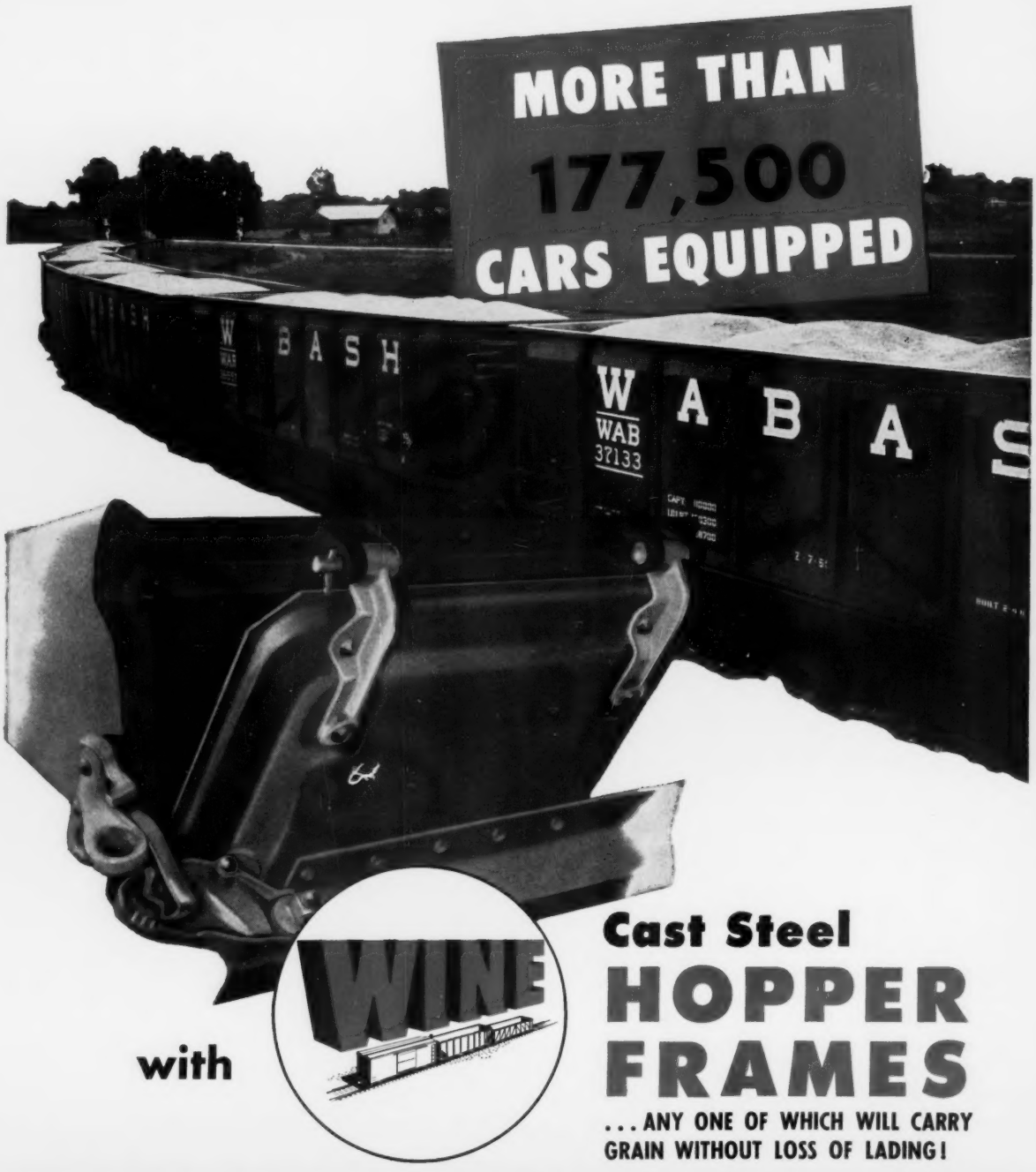
Main RR Job
It's Selling, Says Atkinson—p. 9

Storekeepers' Goal: Fast On, Fast Off . . . p. 30

RAILWAY AGE

MAY 13, 1957 • THE INDUSTRY'S NEWSWEEKLY



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A. **BRIDGE BOLT**—Has square head for easy wrench grip, and integrally forged washer. Saves time, as it is easier to install than standard machine bolt and cast-iron washer.

B. **TIMBER BOLT**—The sharp, diamond-shaped lugs under the head dig into the wood to prevent bolt from turning. The rounded head lies close to the work, promoting safety by offering minimum obstruction. Spiral ribs under head retard seepage. No washer required.

C. **TIE BOLT**—Specially designed to anchor wood ties. Bolt is used in inverted position, and is run through the tie, with nut applied from top. Bolt has hook head for grasping flange of structural steel.

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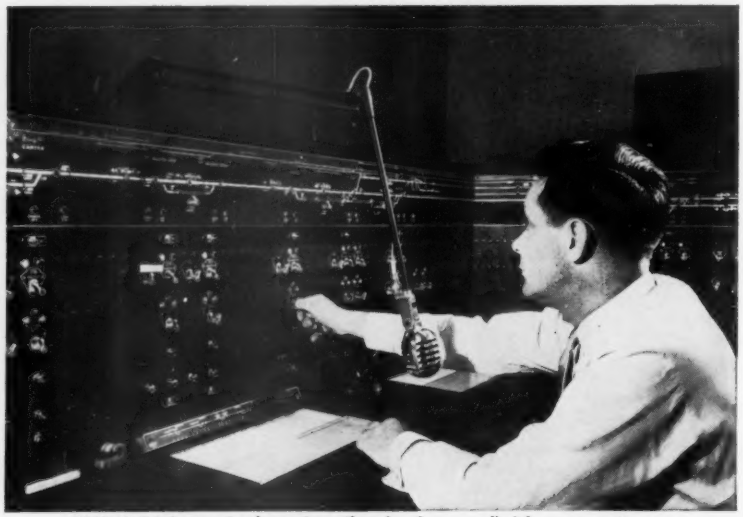
The Bessemer & Lake Erie Railroad has installed a modern UNION C.T.C. System on its main line between Albion, Pa., and North Bessemer, Pa., a distance of 125 miles. Traffic control for the entire railroad is centralized at one point, Greenville, Pa.

With this new C.T.C. system, one track can handle all the traffic formerly handled by two tracks, plus anticipated traffic for years to come. Approximately 84 miles of second main track and 18 miles of side track were retired.

SAVINGS WILL BE LARGE. Surveys made by UNION traffic control engineers and the railroad indicate that the net cash outlay for the entire C.T.C. installation and track changes will be recovered through savings in a few years. The railroad officials are enthusiastic about the greater flexibility of operation and the over-all reduction in costs. Let us give you the complete story.



UNION C.T.C. permits the entire railroad to be controlled from one point.

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RAILWAY AGE The Industry's Newsweekly

Vol. 142, No. 19
May 13, 1957

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PAID CIRCULATION THIS ISSUE ...14,742

CONTENTS and
Week at a Glance

RR service must be merchandised p.9

This means studying the market to find what service the public wants, what it is willing to pay, and then providing a product to meet the specifications, Arthur K. Atkinson, Wabash president, told the annual meeting of the AAR's Freight Station Section.

Fare hike hinged to 1st class costs p.10

The recent 6-to-5 decision in which the ICC authorized six Eastern railroads to raise first-class fares by about 15% restated the commission's aim to have the service "pay its way." The roads had sought authority to increase their first-class fares by 45%.

On the shelf — and off — rapidly p.30

To stay "on top" of the $25 million inventory of materials and supplies at its Altoona works, the Pennsylvania has been revising stores department operations there. A reduction in over-the-counter requisitioning, an increase in palletized handling, and utilization of specialized storage equipment, are highlights of the PRR program.

What car reporting system is best for you? p.32

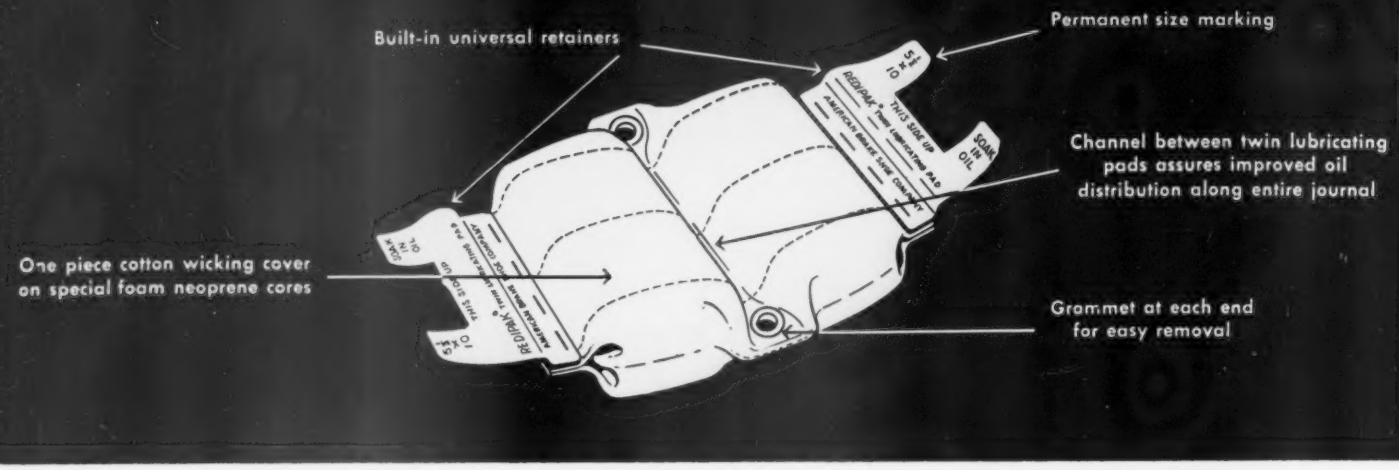
The one, naturally, that will do the job you want done. Here's a guide to today's car reporting techniques that describes four basic systems and that provides also a look into the future.

Santa Fe gets new 'chief' p.34

The road's new president, Ernest S. Marsh, has spent his entire business career with the company. Though Fred G. Gurley has relinquished the presidency, he remains the Santa Fe's chief executive officer. Mr. Gurley, who has become board chairman, is the road's first executive to hold that title since 1920.

RRs will benefit from Ottawa's plans for future .. p.35

Retirement of through-city railroad trackage features a program under way in the Canadian city for relieving urban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Permanent size marking
Channel between twin lubricating pads assures improved oil distribution along entire journal
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Redipak® Twin lubricating pads feature built-in universal retainers... fit all standard freight car journal boxes

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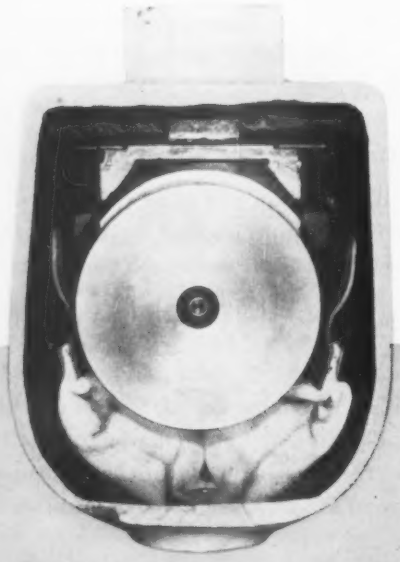

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5 x 9	1 lb. 10 oz.	4 lb.
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6 x 11	2 lb. 6 oz.	6 lb.
6½ x 12	2 lb. 12 oz.	7 lb.

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Current Statistics

Operating revenues, three months	
1957	$2,574,640,178
1956	2,535,561,742
Operating expenses, three months	
1957	$2,022,062,144
1956	1,981,503,801
Taxes, three months	
1957	$271,500,619
1956	269,326,709
Net railway operating income, three months	
1957	$213,857,758
1956	218,900,246
Net income estimated, three months	
1957	$161,000,000
1956	163,000,000
Average price 20 railroad stocks	
May 7, 1957	91.91
May 8, 1956	111.12
Carloadings revenue freight	
Seventeen weeks, 1957	11,323,270
Seventeen weeks, 1956	11,949,469
Average daily freight car surplus	
Wk. ended May 4, 1957	13,566
Wk. ended May 5, 1956	15,726
Average daily freight car shortage	
Wk. ended May 4, 1957	1,010
Wk. ended May 5, 1956	5,010
Freight cars on order	
March 1, 1957	111,965
March 1, 1956	141,437
Freight cars delivered	
Two months, 1957	15,477
Two months, 1956	9,080
Average number railroad employees	
Mid-March 1957	987,975
Mid- March 1956	1,041,214

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Week at a Glance CONTINUED

congestion. Duplicate trackage, wherever possible, is being eliminated and replaced by joint, CTC-governed, Canadian National-Canadian Pacific operations. New freighthouses and new yards are also part of the scheme.

Is 'economy fuel' worth-while? p.62

If Class I railroads could reduce their fuel oil costs by no more than 1 cent per gallon the saving would run close to $40 million a year. It is, therefore, nothing to wonder at that many railroads are industriously searching for "economy fuels."

SHORT AND SIGNIFICANT

New GM&O officers . . .

have been elected. Frank M. Hicks, formerly president, has become chairman and chief executive officer. Succeeding Mr. Hicks as president is Glen P. Brock, who has been executive vice-president.

This year's capital expenditures . . .

of Class I railroads got under way on a basis 43.4% above the initial 1956 level. The January total was $118,265,000, compared with January 1956's $82,461,000.

'Boom' on rivers and canals . . .

is reported by American Waterways Operators, Inc. It says in the past three years 1,400 industrial sites have been picked with barge docks built or proposed. "State, county and city governments, navigation districts and port authorities made major contributions" in 1956 to barge terminal facilities. Exactly.

Standard-gage construction . . .

has been completed on the United of Yucatan from Campeche to Merida, reports Foreign Commerce Weekly. The line, formerly 3-ft gage, is now a 3-rail line, permitting operation of both standard-gage and the present narrow-gage rolling stock. Standard-gage service is now available from Merida, capital of the Mexican state of Yucatan, to all parts of our southern neighbor.

The forged wheel blank shown above is about to be rolled and expanded to final rim contour and size on the Edgewater Wheel Rolling Mill—the most powerful mill of its kind in the world. The rolling process, plus advanced metallurgical techniques account for the extra mileage of Edgewater Wheels.

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PROUD TO PROGRESS
P R I
MEMBER

ATKINSON TELLS FREIGHT AGENTS . . .

RR Service Must Be Merchandised

Getting freight or passenger traffic in these days of strong competition depends on the railroad industry's ability to merchandise its product, says Arthur K. Atkinson.

"We must sell the customer on the fact that our rates, services and schedules are competitive and well-suited to his demand and convenience," the Wabash president told the recent St. Louis annual meeting of the Freight Station Section of the Association of American Railroads.

Merchandising is the railroads' most important current job because the industry's "inherent advantages depend on mass volume transportation of persons and freight," Mr. Atkinson said. "Without such mass volume our business cannot be successful."

However, he warned, "merchandising is not simply a matter of establishing attractive rates. It means studying the market to find what the public wants in the way of service, what it is willing to pay, and then providing a product to meet these specifications."

"It must always be kept firmly in mind that selling transportation service still requires and depends on personal contact," the Wabash chief executive emphasized. He pointed out that there can be no substitute for the friendly, courteous relationship which can be established between a railroad's freight agent and his customer.

Mr. Atkinson predicted that if the "shackles of unfair regulation are removed . . . it is likely that we might be called upon to perform 50% more freight transportation by 1965 instead of only 40% more. If we are to hold our own we must increase our annual outlay for capital improvements and betterments to around $2 billion."

T. C. Burwell, president of the National Association of Shippers' Advisory Boards and vice-president of the A. E. Staley Manufacturing Company, did some straight talking to the freight agents about railroad earnings. "Railroads are like any other corporation and, I presume, are operating for a profit. Certainly a railroad stockholder has a right to earn a return on his investment equal to a like investment in any other corporation—industrial or utility."

On LCL, Mr. Burwell had this to say: "I have only admiration for railroads which discontinue LCL handling, or at least refrain, as the Chicago & North Western did recently [Railway Age, Mar. 11, p. 14] from performing pickup and delivery service." He suggested that railroads establish a higher rate for LCL while retaining the present carload scale.

F. J. Orner, chairman of the section's committee on motor transportation, and general superintendent transportation, New Haven, pointed to a "dangerous" attitude which "seems to be creeping into railroad thinking—'we're doing pretty well; we're even with last year,' or, 'we aren't too bad off; we are only 3% off from a year ago, and I hear the XYZ railroad is 7% off.'"

"We need something to lift us out of this lethargy . . . to lift up our spirits and show there is a way to put traffic on the rails," Mr. Orner declared. "Piggyback looks like one of the big answers to this problem."

Mr. Orner said his committee is developing a proposed trailer equipment register similar to the car equipment register. It is being discussed with the AAR's Mechanical and Transportation divisions.

The motor transportation committee has been considering the possibility of a standardized agreement for trailer interchange, but "this has proved to be a slow process," Mr.

French Railroaders Take Crack at Univac

Members of a special research committee studying U.S. electronic computer systems, five officers of the French National Railways are shown being introduced to the Great Northern's Univac at St. Paul, Minn. Bernard H. de Fontgalland is seated at the console, with Walter N. Norris, GN general auditor, guiding his hand. The French visitors standing are (left to right), Henri A. Dreyfus, Pierre Bonneau, Bernard J. Devalaque and Rene Muller. GN's installation is one of most recent.

Orner explained. "There are many divergent views, and, for the time being, individual roads appear to be encountering no major difficulty in working out interchange agreements with their connections."

"If there is to be a possibility of moving a trailer by rail from one city to practically any other major city, there must eventually be a large degree of standardization in order to provide the best service with a maximum of efficiency," Mr. Orner pointed out. "In the place of extensive standardization, the growth of piggyback has been dominated by a great deal of ingenuity in overcoming differences in equipment, attachments, facilities, etc., without seriously hampering the steady flow of traffic. It seems obvious that more months or even years will elapse before 'the' way of handling tie-down is standardized."

How many LCL shipments are being mishandled? G. Homer Hill of the AAR, chairman of the section's committee on LCL, told the meeting that in 1956 the "over and short" bureau in Chicago received 7,500 reports, while the St. Louis bureau received 11,500 reports.

"I want to express the opinion that material improvements in LCL service and volume could be made if the railroads maximized their efficiency and re-established their sales effort," Mr. Hill declared.

Too many damage claim reports are attributed to "rough handling" and too many inspections are waived, D. G. Bogan New York Central freight agent, told the meeting. "The general term—rough handling—is altogether too vague," O. R. Powels, Milwaukee agent, said. Mr. Powels suggested a photograph should be taken of the damaged load at destination in order to help determine actual cost.

"We can't compete as long as we have the claim problem," D. J. Shields, New York Central freight agent, said. "Positive action must be taken with yard forces who handle the business. We have a lot of people working for us who don't care," he added. J. R. Ludwick, Milwaukee agent, pointed out that "a lot of the damage classified as rough handling actually isn't."

The problem of damage in stop-off cars was discussed in a paper presented by the freight agents' association of Kansas City, Mo. The paper recommended that "tariffs should be amended to require the shipper to load the contents of a stop-off car in such a manner that the freight remaining in the car after partial unloading will ride safely."

"We feel that the solution to the tremendous claim bill is the specialized car," said a paper presented by the Freight Claim Agents' Association of St. Louis and East St. Louis.

A series of papers was presented for discussion on station and terminal operations. The subjects included personnel and training, freight house operation, trailer-on-flat-car operation, equipment and safety. H. LaTournera, Grand Trunk Western general agent, describing the caliber of employees railroads are getting today, said, "we get what is left over."

F. W. Cunningham, district manager of the Railroad Retirement Board in St. Louis, pointed out to the agents the advantages in hiring new employees from the railroad unemployment rolls. He said this would help railroads both by providing them with trained employees and by reducing the drain on the unemployment insurance fund.

New officers of the section are: Chairman, P. M. Chaimov, manager, freight protection merchandise and station service, Southern Pacific, and vice-chairman, W. L. Pfarr, manager, station operation, Baltimore & Ohio.

ICC Hinged Fare Hike to 1st Class Costs

Six-to-five decision restates aim to have service 'pay its way'—Fares on six eastern roads rising 15%—Strong dissents challenge justification for increase, hit 'luxury' concept of sleeper service

Six eastern railroads, including the New York Central and Pennsylvania, were expected to raise their first-class fares by about 15% on May 15. The other four roads, on which rates for travel in parlor cars and sleepers will also rise, are the Chesapeake & Ohio, Norfolk & Western, Pennsylvania-Reading Seashore Lines, and Pittsburgh & Lake Erie.

The increases were authorized by the Interstate Commerce Commission in a report on a petition wherein the six roads sought authority to raise their first-class fares 45%. The commission rejected that proposal, but approved an increase of 20% above the fares of January 8, the day before an interim increase of 5% became effective (Railway Age, Jan. 7, p. 14). Thus the new increase will amount to about 15%, raising the per-mile basis from 4.96 cents to 5.67 cents.

The commission authorized their publication on five-days notice. The expectation last week was that the necessary tariffs would be filed by May 10 to make May 15 the effective date.

The commission's report also permits the six roads and two others (Lehigh Valley and Reading), to make permanent the 5% increase in coach fares (to 3.721 cents per mile) which they have had in effect on an interim basis since January 9. Increases in excess-baggage charges, which will keep them in their present relationship to first-class fares, were also approved; but a proposal to cancel round-trip, first-class fares was rejected. The report, in No. 32023, embodied a 6-to-5 decision with five commissioners dissenting in whole or in part from the majority's determination.

The LV and Reading did not seek increases in first-class fares, but seemingly could take them under provisions of the commission order. These two roads were in a like position as to the interim first-class increase of 5%, not having applied for it but nevertheless taking it. Other eastern roads later got 5% increases in first-class and coach fares (Railway Age, Feb. 4, p. 11, and March 4, p. 11), but were not parties to the present case. Thus they would require separate commission authority to go along on the new first-class increase.

The commission majority justified holding the increase to 20% by citing figures of record which indicated that first-class-service revenues of the petitioning roads would be raised to the level of expenses "related solely" to the service. As the report put it, the commission was thus adhering to what it said in prior cases—"that each particular service, so far as practicable, should be made to pay its own way, at least on an out-of-pocket basis."

As to the 45% proposal, the commission discounted the petitioners' relatively favorable forecast as to prospective traffic losses, saying: "The evidence indicates that the forecast is over-optimistic, and that a 45% increase, particularly since it would not be applicable throughout the eastern

district, would in all probability have such an unfavorable effect upon the volume of first-class passenger traffic as to result in a greater deficit to petitioners than at present. Moreover, an increase in the proportion sought could well have the impact feared by certain protestants, namely, the entire elimination between numerous points of first-class passenger service by the petitioners, thus impairing their ability to meet the needs of the public and the national defense."

Dissenting opinions came from Commissioners Mitchell, Arpaia, Murphy and Walrath. The dissent of Commissioner McPherson was noted.

Commissioner Mitchell found "no justification" for the increases approved. He said that NYC and PRR, which receive 95% of the total first-class passenger revenue of the petitioners, "are the real and only parties in interest." He saw the decision as marking abandonment of what he called the commission's last policy of granting fare increases on territorial bases "rather than to one or two railroads." And he expressed doubt that the present formula for allocating expenses gives an accurate picture of the results of passenger-service operations on the railroads.

"The passenger business today," he also said, "is highly competitive. The increases here allowed will, in many instances, increase rates above those charged by the airlines with which the railroads complete. Railroad men of standing and experience have made statements in the press telling the American people that they can render first-class passenger service without charging a price that will prohibit the ordinary individual from riding first class. Railroads are purchasing new equipment, rendering better service, and only two railroads, in effect, are demanding prices which will drive these first-class passengers from the railroads."

Commissioner Arpaia recorded his agreement with the coach-fare phase of the majority decision, but he objected to the additional increase in first-class fares. He challenged the majority's interpretation of the cost evidence and also had this to say:

"Pullman service is not a luxury; it is a sleeping car service essential to long-haul travel. It is our duty to insure its continued maintenance at just, reasonable, and nondiscriminatory fares."

Commissioners Murphy and Walrath would have held the total increase in first-class fares to 15% above the January 8 rates. Also, they would have made this increase an interim one and required regular reports on the results.

Mr. Murphy's opinion also referred to an "anomalous situation" that he said is developing "as a result of granting general increases in freight rates which include something to cover increased costs of passenger operations and granting increases in passenger fares based in part on some of the same kind of evidence which was presented to justify the freight rate increases."

D&H Making Site Survey

The economic advantages of placing new industrial plants in communities served by the Delaware & Hudson are the subject of a survey just launched by the railroad.

The work will be handled for the railroad by Fantus Area Research, Inc., specialists in industrial surveys and plant locations, said J. P. Hiltz, Jr., D&H vice-president in charge of operation and maintenance. The report will be out in September.

Railroad Prexies Match Business Wits with Industrial Leaders

Meeting a challenge from American Management Association to take part in business "war games" at New York City recently, shirtsleeved Patrick B. McGinnis, president of Boston & Maine (left photo), and cigar-and-pencil-wielding Alfred E. Perlman, New York Central's president (far right in right photo), help shape mock companies' policies. They and 19 other top executives from all over country set up five competing organizations in day-long "struggle" for market supremacy. AMA set up public showing to dramatize use of the game, which is designed to sharpen executives' decision-making skills.

Five companies were supposed to be manufacturers of one product selling for about $5, each starting the game with equal shares of the market, resources, inventory, plant and cash. IBM computer was used to digest "quarterly" decisions as to pricing, research, promotion and other corporate steps. It then produced a report of how each company fared, this process continuing for a "five-year" period. Although out of their accustomed sphere of experience, railroad men shared equal roles with leaders in production-industry fields—and more than held their own in AMA contest.

Equipment Buying Plans Getting Set

Still under active discussion last week by railroad leaders were a number of cooperative plans for accelelerated acquisition of railroad rolling stock — particularly freight cars. High on the list of plans being actively considered is one (main sponsors of which are several Eastern roads), which would bring the federal government into the picture.

Under this plan, effort would be made to have a government agency established for the purpose of supplying equipment to the railroads. Its initial capital would be several hundred million dollars and it would have the right to borrow up to four times its capital. Railroads would be authorized to apply to this agency to supply them with equipment, under lease (not only freight cars, but passenger cars and locomotives, as well).

Railroads securing equipment in this manner would be expected to pay, as rental, a figure fractionally higher than the interest cost of money to the government agency—plus amortization of capital (less scrap value). Maintenance would be an obligation of the lessee railroads.

Proponents of the plan point out that there would be no net cost to the govenment—since title to the equipment would remain with the government agency and there would be a small margin in the rental, over and above the interest cost of the money to the government.

NYC Retires Its Last Steam Locomotive

The New York Central System retired its last steam locomotive on May 2. The locomotive—No. 1977, a Mikado freight unit—was retired at the Central's Riverside yard in Cincinnati.

All road and yard operations on the NYC's 11,000-mile system in 11 states and Canada, with the exception of the railroad's electric operations in the New York City area, are now carried on by diesel-electric locomotives.

The highpoint of steam power on the Central—largest railroad in the world to discontinue use of that type of motive power—was reached in 1931, the road says. In that year the Central had 4,919 steam locomotives in operation. Dieselization of the Central began in February 1928. Its diesel roster now totals 1,946 units.

Labor Cauldron Boils, Cools by Turns

One railroad strike was settled by mediation, another was averted by a court order, and a third dragged on, to highlight the railway labor picture in the west and south last week.

In the east, a walkout by two Teamsters Union locals tying up Railway Express operations at New York since April 23 was ruled illegal and workers were ordered back to their jobs through a court order.

Meanwhile, seven other cities remained without Railway Express service as Teamster walkouts continued, efforts to resume negotiations proving futile. Cities affected are Chicago, Cincinnati, Cleveland, Newark, Philadelphia, St. Louis and San Francisco.

Also in Chicago, negotiations already seven months old were continuing between the Order of Railway Conductors & Brakemen and Class I roads—with some settlement hoped for in a matter of days, according to railroad sources.

The Railroad Yardmasters of America signed an agreement to accept what is substantially the same "package" awarded to most other rail employees, the National Mediation Board announced.

RYA employees are to get $25 a month retroactive to November 1, 1956, $14 a month beginning November 1, 1957, and another $14 a month starting a year later. "Fringe" benefits bring the total package to an $87-a-month hike over the three-year stretch.

Louisville & Nashville officers were taken by surprise by a strike vote passed by some 1,200 members of the Brotherhood of Locomotive Firemen & Enginemen. These employees had been involved in a three-cornered controversy with the railroad and the Brotherhood of Locomotive Engineers.

On request of the Firemen, the L&N had granted a five-day work week to its membership. The Engineers, however, included in their ranks some employees with dual union membership. Wanting to maintain the six-day week, the Engineers protested the railroad's action insofar as it applied to its members, and the road said it was forced to continue the six-day schedule for both groups of employees.

On May 7 the Firemen voted a walkout to begin May 8 but the road obtained a temporary restraining order, delaying any such action at least until May 13 when a hearing on a motion for a permanent injunction will be heard.

The Duluth, Winnipeg & Pacific, shut down since April 16 in a dispute with BLF&E members over working rules (Railway Age, Apr. 22, p. 10) remained strike-bound as this issue went to press.

Terminal Consolidation Again Talked in Chicago

New plans are being made to consolidate four Chicago passenger terminals. Affected stations—all south of the Loop—would be Dearborn Street, LaSalle Street, Grand Central and Illinois Central.

Proposals for consolidation were made as long as 50 years ago. Present estimates are that one merged terminal would allow trackage to be cleared from some 75 acres on Chicago's near southside, freeing the property for commercial and expressway development.

(Continued on page 14)

NYC Gets Defense Award

L. W. Horning (left), vice-president, personnel, for the New York Central System, accepting from Lt. General Thomas W. Herren, commander of the First Army, the Department of Defense Reserve Award presented to the railroad. The award cited the NYC for its "outstanding cooperation with reservists and Reserve activities" and is the first of its kind made in the New York area.

MARKET OUTLOOK THIS WEEK

Carloadings Up 4.1% in Week

Loadings of revenue freight in the week ended May 4 totaled 718,924 cars, the Association of American Railroads announced on May 9. This was an increase of 28,135 cars, or 4.1%, compared with the previous week; a decrease of 51,634 cars, or 6.7%, compared with the corresponding week last year; and a decrease of 17,980 cars, or 2.4%, compared with the equivalent 1955 week.

Loadings of revenue freight for the week ended April 27 totaled 690,789 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, April 27

District	1957	1956	1955
Eastern	111,400	129,403	124,330
Allegheny	135,524	157,607	146,878
Pocahontas	64,951	64,694	59,724
Southern	119,932	135,092	108,088
Northwestern	102,379	114,522	111,289
Central Western	108,376	121,179	116,562
Southwestern	48,227	57,480	59,029
Total Western Districts	258,982	293,181	286,880
Total All Roads	690,789	779,977	725,900
Commodities:			
Grain and grain products	45,646	49,861	48,789
Livestock	5,391	7,546	9,140
Coal	134,685	142,705	116,494
Coke	12,302	13,212	11,611
Forest Products	39,143	46,916	43,078
Ore	56,494	69,012	58,311
Merchandise l.c.l.	54,618	60,651	60,563
Miscellaneous	342,510	390,074	377,914
April 27	690,789	779,977	725,900
April 20	686,950	763,437	701,432
April 13	673,964	742,053	670,304
April 6	644,092	685,378	659,217
March 30	694,922	724,968	654,761
Cumulative total, 17 weeks	11,323,270	11,949,469	11,073,563

IN CANADA.—Carloadings for the seven-day period ended April 21 totaled 61,288 cars, compared with 68,838 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
April 21, 1957	61,288	31,623
April 21, 1956	83,184	34,118
Cumulative Totals:		
April 21, 1957	1,114,448	525,389
April 21, 1956	1,203,602	555,826

New Equipment

FREIGHT-TRAIN CARS

► *Chesapeake & Ohio.*—Ordered 50 70-ton gondola cars, Pullman-Standard, at estimated cost of $500,000; delivery expected next December.

► *Minneapolis, Northfield & Southern.*—Ordered 100 50-ton box cars, Pullman-Standard, at estimated cost of $800,000; delivery expected next October and November.

► *Union Pacific.*—Ordered 500 70-ton gondola cars, ACF Industries, and 100 70-ton covered hopper cars, Pullman-Standard.

► *Utah.*—Ordered 200 70-ton hopper cars, Pullman-Standard; delivery scheduled for January 1958.

LOCOMOTIVES

► *India.*—Deadline for submitting bids for supply of four diesel locomotives to Madras Port Trust has been extended to May 31, says Foreign Commerce Weekly.

► *Pennsylvania.*—Ordered 50 1,750-hp all-purpose diesel units for freight service, Electro-Motive, at approximate cost of $9,750,000; delivery is to be completed by October, at which time PRR's diesel roster will total 2,234 units with combined capacity of 3,173,320 hp.

PASSENGER-TRAIN CARS

► *South Africa to Buy 1,007 Cars.*—Bids for supply of 1,007 cars, to cost about $56,000,000, will be asked soon by South African Railways & Harbors Administration, says Foreign Commerce Weekly; interested firms may write the administration's General Manager, Johannesburg, Union of South Africa.

Maintenance Expenditures

► *Little Change in February.*—Expenditures by Class I roads for maintenance of equipment, way and structures in February were $163,397 less than in same month last year, according to report of ICC Bureau of Transport Economics and Statistics summarized below:

	Feb. '57	*Feb. '56*	*% Change*
Maintenance of Way & Structures	104,198,121	103,744,917	+ .4
Maintenance of Equipment	153,756,936	154,373,537	— .4
Totals	257,955,057	258,118,454	— .06

New Facilities

► *Lackawanna.*—New freight transfer terminal intended to make Buffalo, N.Y., the hub for freight-forwarder distribution of goods between Canadian and United States manufacturing areas has been put into service by the Lackawanna; leased to Acme Fast Freight, the $1 million installation has 83,000 sq ft of floor space and 11,500 sq

(Continued on following page)

MARKET OUTLOOK (continued)

ft for offices; ten tracks with 120-car capacity serve the terminal, which utilizes two conveyor belts for transfer of freight between trucks and freight cars.

Purchases & Inventories

► *Two Months' Purchases Up 8.4%.*—Purchases by domestic railroads of all types of materials in this year's first two months were $33,477,000, or 8.4%, higher than in the comparable 1956 period; purchase and inventory estimates in the following tables were prepared by Railway Age.

PURCHASES*	February 1957	Two Months 1957	Two Months 1956
	(000)	(000)	(000)
Equipment**	$ 72,334	$124,636	$ 77,693
Rail	10,222	19,481	18,913
Crossties	6,498	12,994	10,787
Other Material	98,128	195,518	207,819
Total from Manufacturers	$187,182	$352,629	$315,212
Fuel	37,819	77,847	81,787
Grand Total	$225,001	$430,476	$396,999

* Subject to revision.
** Estimated value of orders.

INVENTORIES*†	February 1, 1957	February 1, 1956
	(000)	(000)
Rail	$ 51,925	$ 51,444
Crossties	96,114	91,816
Other Material	548,643	492,839
Scrap	21,591	19,965
Fuel	33,991	31,194
Total	$752,264	$687,258

* Subject to revision
† All total inventory figures taken from ICC statement M-125 for month indicated.

(Continued from page 12)

The new merger plans are being evolved by a 10-man committee, including five railroaders, under the chairmanship of the mayor of Chicago. The committee is reportedly drawing up legislation for submission to the Illinois General Assembly, which would create a Chicago "terminal authority." The authority would have power to issue revenue bonds to finance construction. Rentals from railroads using the new terminal would be used to retire the bonds. Total cost of the terminal project has been guessed as high as $250 million.

Railroad members of the mayor's committee are: Downing B. Jenks, president of the Rock Island; Wayne A. Johnston, president of the Illinois Central; G. Murray Campbell, vice-president of the Baltimore & Ohio; L. A. Evans, president of the Chicago & Western Indiana; and D. A. Fawcett, vice-president of the New York Central.

Varied opinions have been voiced as to the consolidation's chances of becoming reality. The office of Mayor Richard J. Daley was officially optimistic. On the other hand, some railroad men said they expected no more than another unfulfilled plan.

Two other Chicago terminals are figuring, negatively, in plans for new facilities. Both Union Station and the North Western Station had been considered by an airline committee seeking a location for a projected downtown air passenger terminal. Neither station will get the air terminal. The committee has chosen a site on Chicago's Wacker Drive, which affords no rail connection to the airports.

March Net Up $1 Million

Class I railroads in March had estimated net income, after interest and rentals, of $71 million, compared with $70 million in March 1956, according to the Bureau of Railway Economics of the Association of American Railroads.

The three-months' net, however, was off $2 million, having been $161 million compared with $163 million for the first quarter of 1956.

March's net railway operating income, before interest and rentals, was $89,857,313, compared with $88,976,189 in March 1956. The three-months' net railway operating income was $213,857,758, compared with $218,900,246.

Twenty-four Class I roads failed to earn interest and rentals in this year's first three months. Rate of return for the 12 months ended with March averaged 3.92%, compared with 4.16% for the previous 12 months.

CLASS I RAILROADS—UNITED STATES

	1957	1956
Month of March		
Total operating revenues	$ 903,612,499	$ 888,984,912
Total operating expenses	690,143,862	678,443,510
Operating ratio—per cent	76.38	76.32
Taxes	100,351,351	99,941,479
Net railway operating income (Earnings before charges)	89,857,313	88,976,189
Net income, after charges (estimated)	71,000,000	70,000,000
Three Months ended March		
Total operating revenues	$2,574,640,178	$2,535,561,742
Total operating expenses	2,022,062,144	1,981,503,801
Operating ratio—per cent	78.54	78.15
Taxes	271,500,619	269,326,709
Net railway operating income (Earnings before charges)	213,857,758	218,900,246
Net income, after charges (estimated)	161,000,000	163,000,000

C&O's Lawall Cited

Dr. Charles E. Lawall has received the 1957 Bituminous Coal Research annual award for outstanding leadership on behalf of industry-sponsored coal research.

Dr. A. A. Potter, BCR president, presented the bronze plaque emblematic of the award to Dr. Lawall, who is Chesapeake & Ohio vice-president of coal traffic and development, at the research association's recent annual meeting banquet in White Sulphur Springs, W. Va.

In presenting the award, Dr. Potter said Dr. Lawall was selected because of his long and capable chairmanship of the mining development committee of BCR, for the work he and his staff have done to help expedite work of the BCR general research program, as well as his personal promotion of research.

People in the News

CHESAPEAKE & OHIO.—**D. A. Edwards,** treasurer, Cleveland, Ohio, promoted to manager, investment department, newly created senior finance post. **A. F. Dell Isola,** assistant to vice-president—finance, Cleveland, succeeds Mr. Edwards as treasurer. **Hays T. Watkins, Jr.,** senior budget analyst, promoted to chief of budget services; this post was formerly included in the duties of Mr. Dell Isola. **H. F. Kuhlmann** appointed general auditor—data processing, Cleveland. **W. M. Warren** named assistant general auditor, Cleveland. **C. M. Shoup** appointed superintendent, Central Procedures staff, and **J. R. Sheehy** named superintendent, computer center, both at Cleveland. **Frederick E. Gleach,** tax commissioner, Eastern and Southern regions, appointed general tax commissioner, system, Richmond, **W. A. McClintic** named tax commissioner, Detroit, Mich.

LEHIGH & NEW ENGLAND.—**S. T. W. Green,** executive vice-president, elected president, succeeding **W. H. Edwards.**

MONON.—**Don R. Anderson** appointed freight traffic agent, Chicago.

NORFOLK & WESTERN.—**R. E. Petterson,** assistant comptroller, promoted to comptroller, Roanoke, Va., succeeding **I. V. Jessee,** retired. **H. J. Brinner,** assistant to comptroller, replaces Mr. Petterson.

M. F. Stewart, assistant general storekeeper, appointed general storekeeper, Roanoke, Va., succeeding **A. D. Stewart,** who retired May 1. **W. G. Lester,** storekeeper, Roanoke, named assistant general storekeeper.

ROCK ISLAND.—**H. Jensen,** acting signal engineer, Chicago, appointed signal engineer there. **W. B. Johnson,** acting assistant signal engineer, named assistant signal engineer. **D. L. Johnson,** acting general signal inspector, appointed general signal inspector.

I. C. Bruce, assistant vice-president—traffic, Chicago, retires May 14.

VIRGINIAN.—**E. H. Werner,** assistant electrical engineer, appointed electrical engineer, Princeton, W.Va., succeeding **J. C. Fox,** retired. Position of assistant electrical engineer abolished.

D. A. Edwards
C&O

A. F. Dell Isola
C&O

R. E. Petterson
N&W

M. F. Stewart
N&W

Railroading After Hours with Jim Lyne

"TOASTMASTERS"—Henry W. Leap, assistant to vice-president of the Hannibal Connecting Railroad, out in Mark Twain's old home town, says he believes the Toastmaster Clubs—which give their members experience in public speaking—"are worth the time of any railroader"; and he offers to provide information about the clubs to interested railroad people.

Moving a little to the north and east of Hannibal—over to Peoria—Dave Keith, who handles public relations for the TP&W, has shown me a couple of leaflets, designed to inculcate the idea of "industrial development" in the minds of citizens of small communities. I've seen a lot of stagnant towns and a lot of towns on the move. Usually, the only difference between the one kind and the other is that some of them have people with more imagination and initiative than the others. A railroad that provides an idea factory for its local communities ought to be a friend indeed.

PSYCHOLOGY OF SAFETY—The Menninger Foundation (for psychiatry) at Topeka issues a quarterly publication—and in the current issue there is an article entitled "The Illogical Logic of Accident Prevention." The gist of the piece is that people usually aren't induced to observe safety rules by appeals to reason—because the actions that cause accidents often arise from the subconscious. To correct the causes of accidents, safety people (the author believes) will have to dig deeper into people's motives than many of them have yet done.

I passed along this suggestion at a recent joint meeting of the N.Y. superintendents' association with the Safety Section, AAR—and am sure, from what some of the speakers on the program had to say, that the idea is by no means a new or unpopular one with railroad safety people.

INFORMATION FOR SAFETY—I ventured the suggestion, also, that we try to improve the quality and quantity of information collected as to causes of accidents, and that we intensify the study of such data. You can't correct conditions unless you know fully and accurately what the conditions are that need correcting.

Railroads need to do all they can further to improve their safety—not only for the usual reasons, but also for competitive considerations, because the airlines are going to get an $800 million contribution of taxpayers' money for radar controls. This hand-out should not only improve their safety, but their traffic capacity as well. It's a laudable thing to improve airline safety, but why should the check be picked up by the taxpayers, rather than by the airlines and their customers?

2 MEN IN A CAB—I have read the ICC report on the NYC accident at Ripley on February 8; and it says the fireman on the passenger locomotive was "apparently mistaken as to the indication of Signal 672E." He testified that the signal had changed to Proceed, but the ICC believes he was mistaken. The ICC says the primary cause of the accident was the failure of the passenger train to observe the indication of this 672E signal and another one nearer the point of collision. The fireman apparently was of no help in picking up the indication of this other signal, either, in time to avoid trouble.

It is usually a persuasive argument with most people that there ought to be more safety with two men in a cab than only one, but it doesn't always happen that way.

1953 to 1956

Griffin EQS is placed in service under all types of cars and performance is so outstanding that the railroads move to adopt it as standard.

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ELECTRIC QUALITY STEEL

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Plants strategically located to serve all railroads

1952

Griffin announces an entirely new concept of producing freight car wheels . . . a steel wheel, pressure-poured in precision graphite molds to fine tolerances.

1957

Griffin EQS...now approved as AAR STANDARD

Effective March 1, 1957

Give the "green" to ***GRIFFIN*** *and watch your costs go down!*

Questions and **Answers**

Of current interest | to the Transportation Department

What does consignees' failure to remove dunnage from cars mean to the railroads in terms of lost car days? And has there been any recent noticeable, improvement in patrons' cleaning of cars after the load has been removed . . .

?

Some answers to this question were published in this column in the issues of April 1 and 15.

In answers to this question which we have received, opinion of the respondents was three to one in saying that there had been some decrease in the number of cars to be cleaned by railroads. Considerable credit for this improvement was given to the efforts of the National Clean Car Committee of the National Association of Shippers Advisory Boards.

CONDUCTED by G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.

Yes. Clean car program is getting results.

Answers published in previous issues gave some "local" information on the delays affecting cars which had to be moved to cleaning tracks. Nationally, in 1955, the AAR Car Service Division estimates, 15.3 million car-days were lost in cleaning cars and moving them to and from cleaning tracks. Had these cars not had to go to be "emptied," almost a million more carloadings would have been possible with the same serviceable ownership. However, the CSD points out, not all these lost car-days were due to patrons' failure to unload cars completely. The AAR estimates that about 50% of those lost days are the direct result of receivers leaving debris in cars.

The total car cleaning bill of the railroads, according to the AAR, is over $110 million.

Car Service Division Chairman Arthur Gass recently released to AAR member roads a circular detailing some results of the national clean car campaign. Mr. Gass' report indicates that our respondents' opinions, based on local conditions, generally are in accordance with the national facts. Countrywide, during 1955 and 1956, first checks made by clean car committees of the several boards showed that 17.3% of cars released were not clean. Rechecks of the same terminals some time later showed the percentage of unclean cars declining to 12.3% (This was after "offenders" had been contacted and asked to clean cars they released.) That is evidence of progress. Still, when one of every eight cars released contains debris, there's plenty of room for improvement.

Incidentally, one board, the Atlantic States, has come up with a new "gimmick" in its program to promote car efficiency. I recently received a letter from Board Secretary *J. F. Forrester* telling me about it. At its April 10-11 meeting this board awarded certificates of merit to three companies which turn freight equipment used by them in the fastest possible time. Interestingly enough, one of the points the Atlantic board's committee took into account in picking winners, was whether or not the shipper cleaned cars before releasing them.

According to Mr. Forrester, the board's car efficiency committee required applicants for the award to furnish their records of car handling during the period November 16, 1956, to March 15, 1957. Additionally, companies entering the "contest" were required to answer a series of questions.

Some of the more important of these questions, in my opinion, are:

Do you load cars only with commodities that will not down-grade them?

Do you give railroad agent destination and routing of shipments when ordering equipment?

Does the railroad agent receive adequate advance notice of your car requirements?

Do you order for prospective loading only cars that are needed?

Do you try to load in accordance with car service rules? and

Do you clean all cars before releasing them to the railroad?

Incidentally, contestants were divided into three classes: those loading more than 200 cars; those loading 201-500 cars; shippers loading more than 500 cars. Winners were Ternstedt Division of General Motors, Trenton, N.J.; Western Printing & Lithographing Co., Poughkeepsie, N.Y.; and Benjamin F. Shaw Company, Wilmington, Del. Mr. Forrester says that "there will be two additional award periods this year, after which a suitable plaque will be given to the companies in the three categories . . . having the best record for the complete year."—*G. C. R.*

Another off-track use for a D8

Daylighting a tunnel on the Northern Pacific Railway

A CAT* D8 Tractor equipped with a No. 8U Bulldozer recently went to work for the Northern Pacific Railway, daylighting Tunnel 7, a few miles east of Superior, Montana. Morrison-Knudsen Co., Boise, Idaho, was the contractor.

The big, versatile Caterpillar D8 Tractor had a number of assignments on the job, which called for the removal of about 59,000 cubic yards of shale rock. First it constructed access trails along the steep slopes beside the tunnel so drilling equipment could be hauled in. It also dozed dirt into the tunnel to form a cushion around the ties to protect them from construction equipment. Throughout the entire job it maintained access roads and kept this important freight line clear. During rock removal operations, the D8 spread waste rock below the railroad grade for 400 feet on each side of the tunnel.

It takes dependable, all-around equipment such as the D8 to do all these vital jobs and keep work on schedule. Its 191 HP (flywheel) diesel engine can be teamed with a torque converter or with the exclusive Caterpillar oil clutch. Seven-roller track frame and "water quench" hardened track shoes give added work life. Highly effective filters and seals keep wear-causing abrasives out of all moving parts.

Your Caterpillar Dealer has a complete line of dependable crawlers ranging from the dependable 48 HP (flywheel) D2 to the mighty 320 HP (flywheel) D9. They have been designed to save you maintenance costs just as the Cat Dealer will save you capital investment by stocking an entire inventory of parts. Call him today for a demonstration on *your* job. You name the date . . . he'll be there!

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NEW ALCO
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LOCOMOTIVES OFFER INCREASED VERSATILITY, IMPROVED RETURN ON MOTIVE-POWER INVESTMENT

Simple Design, Rugged Construction Provide Maximum Performance In ALCO's New 900 hp, 1800 hp and 2400 hp All-Purpose Diesel-Electrics

You get maximum locomotive performance at minimum investment cost when you choose from ALCO's new line of higher horsepower diesel-electric locomotives. Each model, tailored to your basic needs and offering far greater power and versatility, is equipped with the recently developed ALCO Model 251 diesel engine.

Engineered and manufactured by ALCO, the new locomotives incorporate many of the most important developments in locomotive design. New features, including larger cabs, dynamic braking, roller bearings, static excitation system, control and gauge arrangements enabling convenient operation in either direction, plus many other innovations, give you increased efficiency and lower maintenance costs. A wide range of modifications and choices of gear ratios are available.

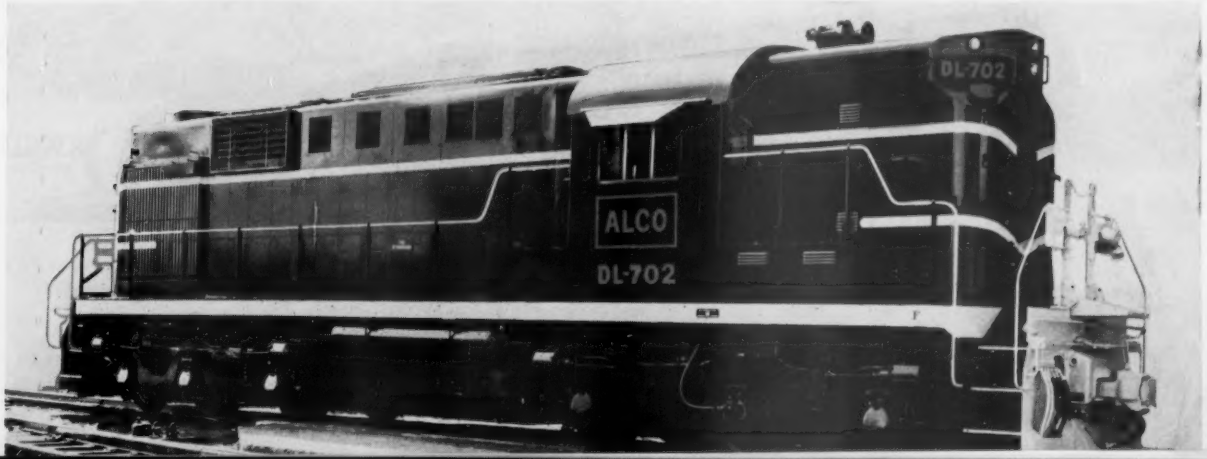
Operational versatility with the new ALCO diesel-electrics has been advanced far beyond any previous performance standard. Continuous operation for long periods of time on a variety of assignments is now possible. Units are used for jobs requiring power, quick, easy movement and reliability with no loss of performance time.

ALCO's new higher horsepower Model 251 diesel engine, installed in the new locomotives, has had two years of use in regular road service, as well as three years of laboratory testing. It includes many new engine design features which provide higher performance standards, longer service life, and substantial reductions in engine maintenance.

For information on these new locomotives, or for a complete survey of your motive-power requirements, consult your ALCO representative or write to P. O. Box 1065, Schenectady 1, New York.

ALCO **ALCO PRODUCTS, INC.**
NEW YORK
Sales Offices in Principal Cities

Four newly designed, higher horsepower ALCO diesel-electric locomotives—left: DL-701, 1800 hp 4-motor road switcher; above left: DL-600, 2400 hp 6-motor road switcher; above right: DL-430, 900 hp switcher; below: DL-702, 1800 hp 6-motor road switcher. ALCO also produces freight "A" and "B" units with new Model 251 diesel engine.



A MILESTONE IN **RIBBONRAIL** SERVICE!

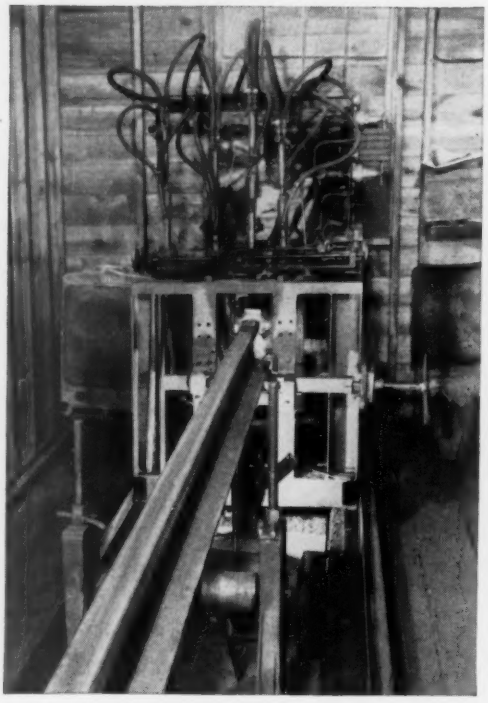
Pressure Welding Proves Efficient, Economical

With completion of the 500,000th oxy-acetylene pressure weld, a milestone in the acceptance and development of RIBBONRAIL service has been passed. Today, railroads are saving thousands of dollars annually on track maintenance in yards and stations, on bridges, and in main line track . . . and still greater savings are in the making.

Welded Joints Now Cost Less Than Bolted Joints

The history of welded rail is one of increased operating efficiency, and lower weld cost. Today it actually costs less to weld rail than it does to connect it with bolted joints. Smooth, "clatter-free" welded rail eliminates the cost of battered rail end build up, and signal bond and joint bar maintenance. Yes, RIBBONRAIL service is the trend in modern railroading.

Plan your RIBBONRAIL service program now. Call or write your local LINDE representative for detailed information.



Weld passes through a "normalizing" machine above. When it cools, the weld will be ground—and then ready for service.

RAILROAD DEPARTMENT

Linde Air Products Company

A Division of Union Carbide and Carbon Corporation

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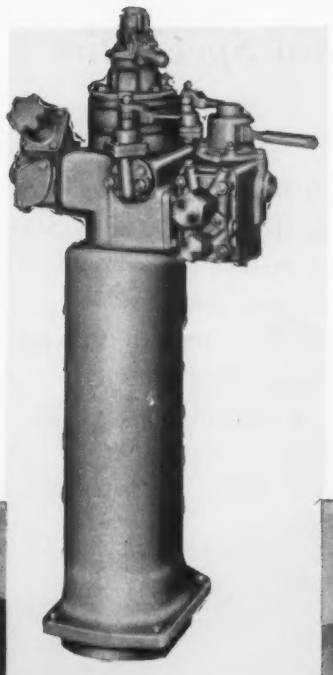

The Westinghouse Air Brake 6-SL Brake Equipment

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The 6-SL Brake Equipment is built specifically for yard switchers. It provides a high degree of flexibility —matching that of the Diesel switcher itself. It performs along with the Diesel, 'round the clock, and thereby contributes to the high working availability of yard switchers.

The 6-SL Brake provides all the basic functions that enable a modern yard switcher to perform most productively and economically.

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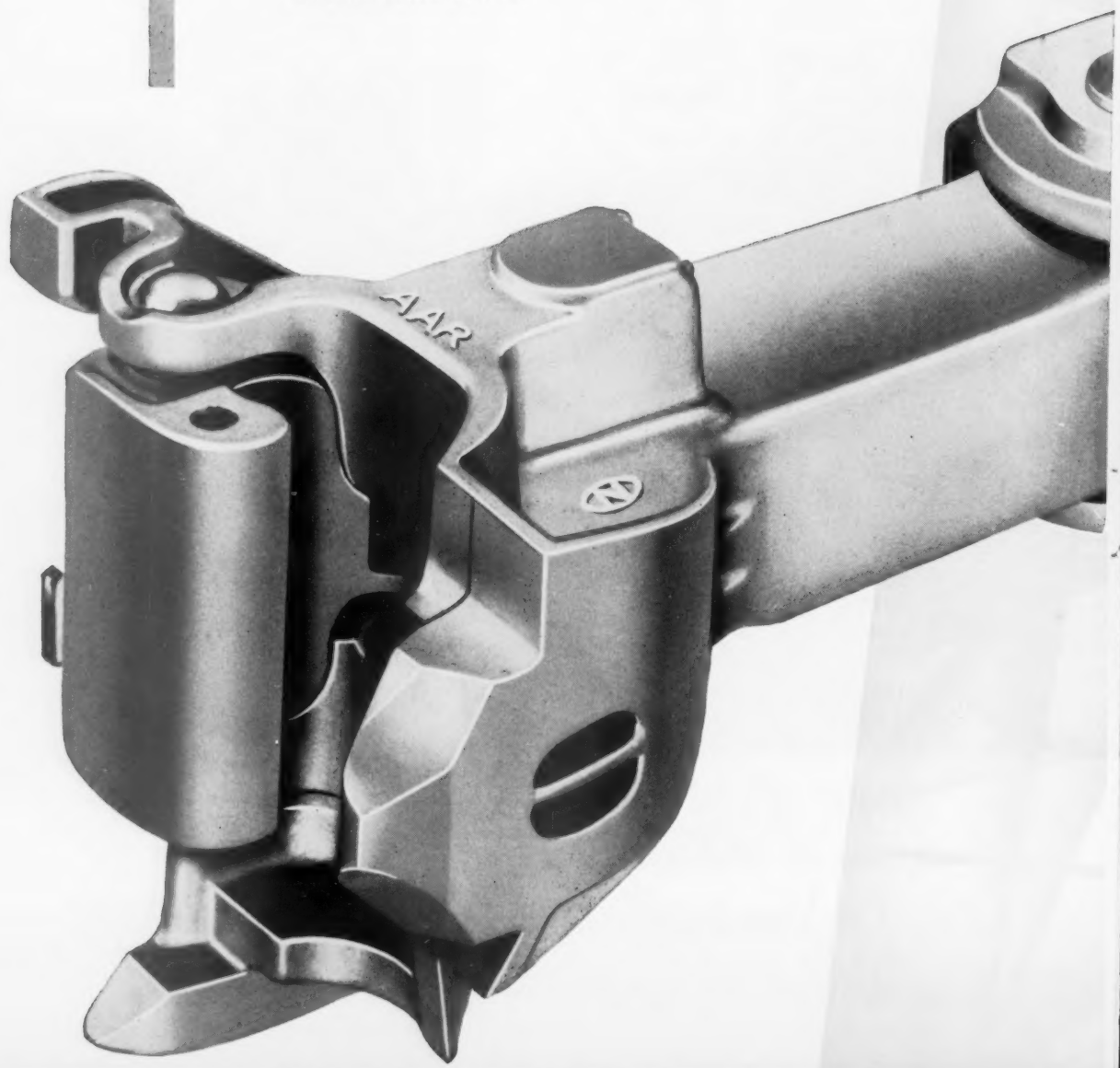

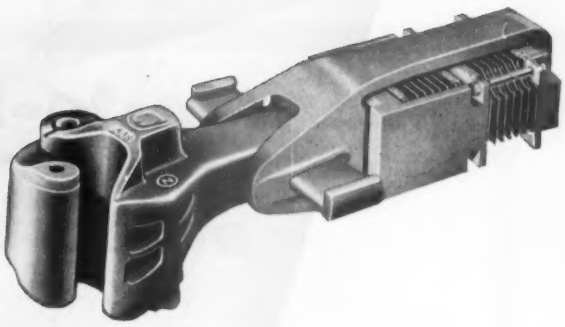

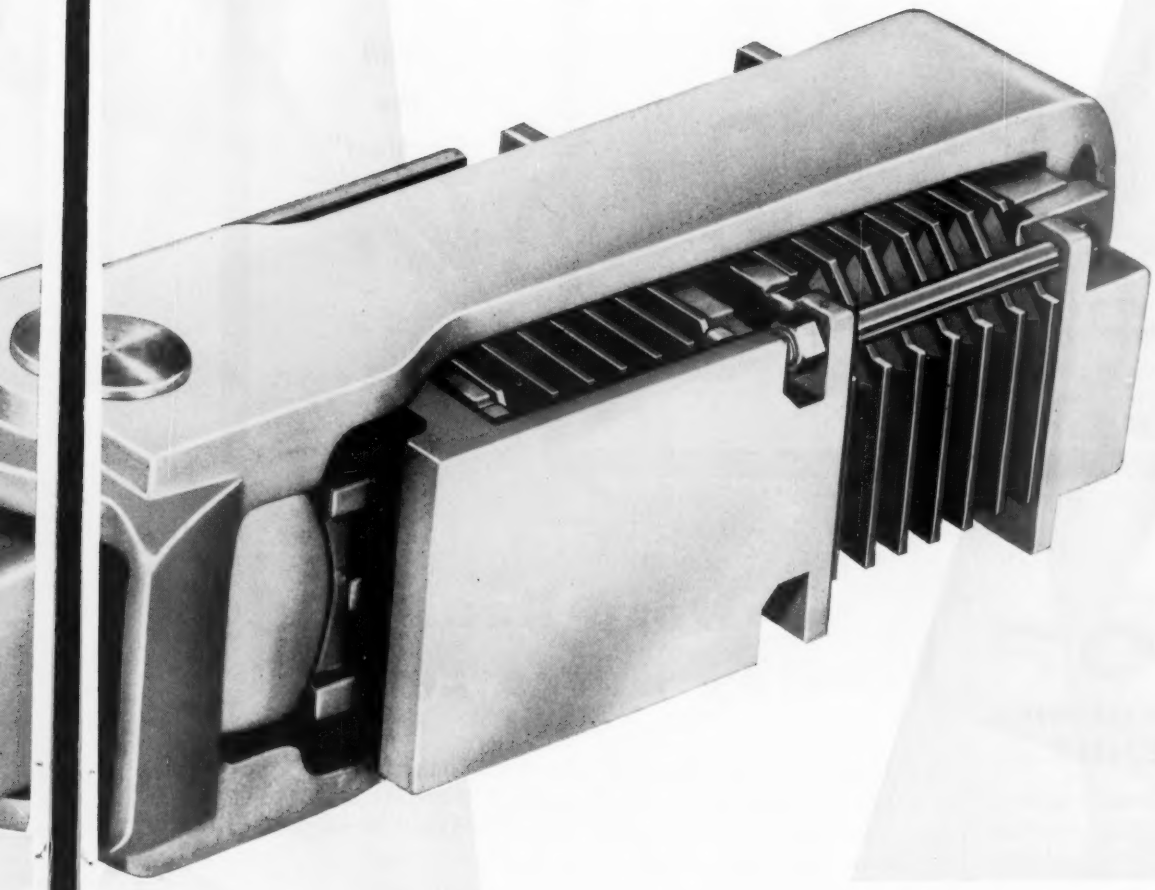

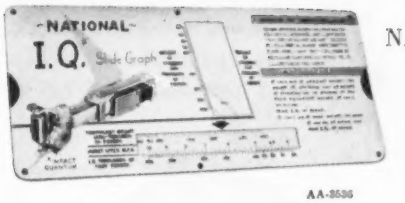

AA-3536

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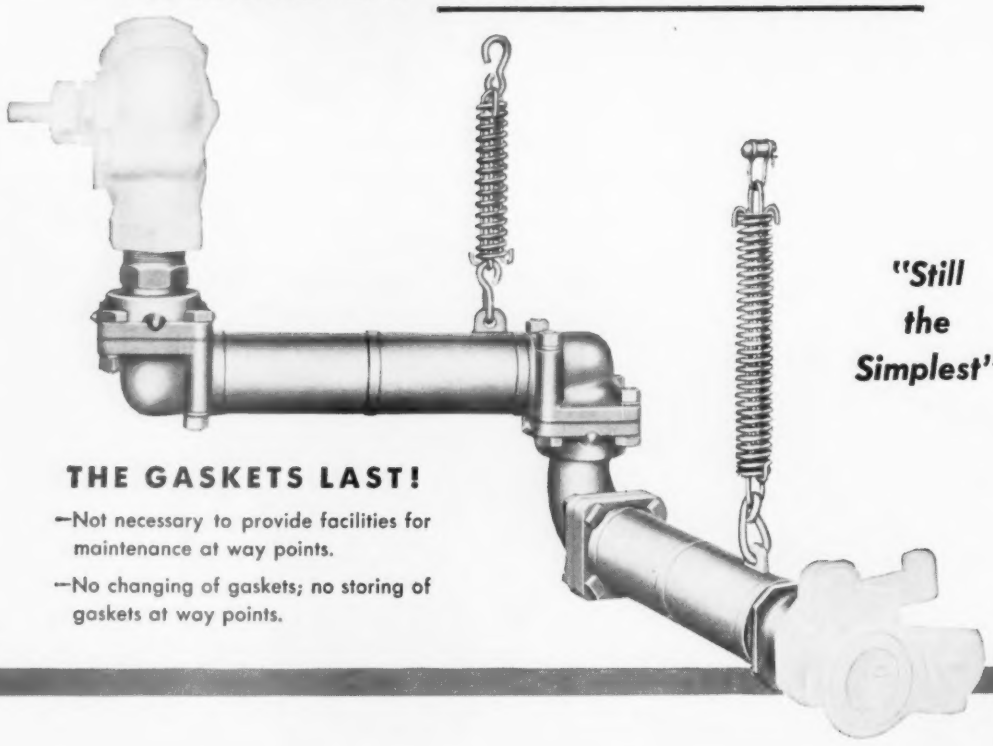

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KEEP BOLTS TIGHT
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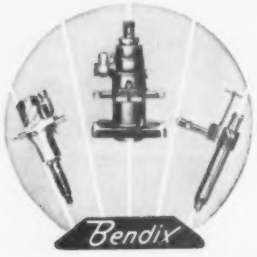

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Cleveland 14, Cleveland Ignition Co., 1301 Superior Ave., N.E.

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Tulsa 3, Magneto Ignition Co., 701 West Fifth St.

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Portland 14, Automotive Products, Inc., 1700 Southeast Grand Avenue

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Hazleton, Penn Diesel Service Co., No. Church at 27th St.
Philadelphia 32, J. W. Parkin, Jr., 2251 N. Broad Street
Pittsburgh 6, Automotive Ignition, 6358 Penn Avenue

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Memphis 4, Automotive Electric Service Co., 982 Linden Avenue

TEXAS

Dallas, Beard & Stone Electric Company, 3909 Live Oak St.
El Paso, Reynolds Battery & Magneto, 801 Myrtle Avenue
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Houston 11, Magneto & Diesel Injector Service, 6931 Navigation Blvd.
Odessa, Electric Service & Supply, 1601 N. Grant St.
San Antonio 3, Womack Bros., 123 West Carolina

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Salt Lake City 2, Diesel Electric Service & Supply Co., 60 East 13th St., South

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Norfolk, Diesel Injection Sales & Service, 808 Union Street
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Seattle 1, Seattle Injector Co., 2706 Second Ave.

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Milwaukee, Fuel Injection & Electric, Inc., 934 N. Jackson St.

Canada

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Calgary, Hutton's Ltd., 131—11th Ave., West

BRITISH COLUMBIA

Vancouver, Fred Holmes Fuel Injector Sales & Service, Ltd., 627 Bidwell Street

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Also, ballast properly positioned . . . as only the McWilliams Ballast Distributor can do it . . . contributes to making the tamping job last longer.

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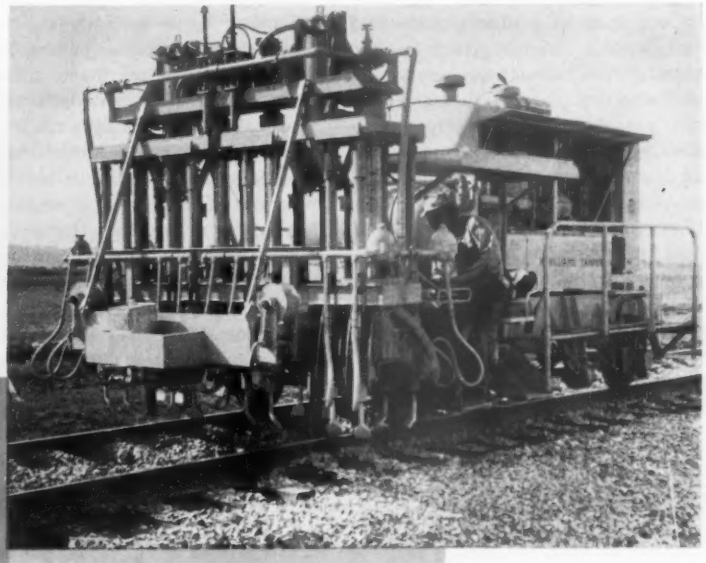
Machine places ballast in desired quantity and depth in exactly the proper position, leaving no ballast to be removed after tamping.



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Tamper uses 16 air-operated tools to finish tamp any raise up to 6", at speeds up to 720 feet per hour.

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On the Shelf—and Off—Rapidly

To stay "on top" of the $25 million inventory of materials and supplies at the Altoona works, the Pennsylvania has been revising its stores department operations there. Two of the Altoona stores units are among the largest of their types in the industry. While paperwork procedures may vary, theories behind the design and operation of the stores facilities themselves have much in common from railroad to railroad. Keystones of PRR program have been a reduction in over-the-counter requisitioning, an increase in palletized handling, and the utilization of specialized storage equipment.

Supermarket efficiency and modern mechanical aids must be integral parts of the business of handling and doling out the hundreds of things every railroad needs in its repair shops. Evidence points to the fact that some of the railroads could give lessons to supermarkets.

Long a major problem of railroad management, the technique of fast in-and-out movement of parts, supplies and equipment is being refined and improved in many places. Outstanding in this respect are the mechanical shops of the Pennsylvania at Altoona, Pa., where the stores facilities are examples of how a railroad keeps house in 1957.

In charge is Merrill Haines, area storekeeper at Altoona and a veteran of more than 35 years experience in railroad storekeeping. In his purview are better than $25-million worth of material and supplies scattered over four major units of Altoona Works. Each of the two largest, one for the locomotive shop and the other the car shop, easily qualifies as among the largest miscellaneous-stores facilities in the industry.

"An important fundamental in handling railroad stores," says Mr. Haines, "is to keep on top of the heap. This means putting things where you can get them within less than a half a minute's lapse of time from the check-out counter. It means having working departments educated to requisition their needs before they run out of them. And it means maintaining a system that lets you know when you need to replenish inventories."

In the central storage area of the car shop, more than 18,000 different items are stored; a total of more than $9-million worth of supplies, parts and equipment accessible at any one time. On the shelves are tiny washers and grommets, heavy metal castings, delicate electronic instruments, and bolts of upholstering fabric. The stores include such old standbys as 12-lb car truck pins, and such modern essentials as synthetic rubber gasketing for air-conditioned cars.

The car shop's storage area was expanded and centralized just two years ago. In so doing, Mr. Haines and his associates installed some new equipment and some new methods.

One of the most significant developments was the switch from over-the-counter requisitioning to top emphasis upon direct delivery of requisitioned needs to the department placing the order. This "store-to-door" operation, says Mr. Haines, now represents better than 40% of all outgoing movement. It facilitates inventory control and helps the storage area staff to work more evenly over

DO's and DON'T's Behind PRR's Stores Planning

DO seek the advice of supervisory people who will have anything to do with the storage area.

DO make provision for maximum "flexibility" and "expandability" in the storage area. It is often wise to locate the area along an outer plant wall, so that expansion can be made by adding new floor space that will not invade other departments.

DO make definite plans for fixed shelving areas which can be committed to plant layout drawings.

DO place storage areas as close as possible to working areas to be served.

DO provide in the shelving for a factor of expansion, but not unlimited expansion.

DO provide for adequate aisle widths. The width and bulk of the largest floor cart—with allowance for turns at corners—should dictate minimums. Also, the size and bulk of the largest items to be stored should govern aisle widths.

DO give attention to safety factors, asking advice of safety experts. Safety considerations include, for example: marking white or yellow lines on floors to help floor carts turn at the corners of aisles of shelving; adequate lighting; avoidance of sharp corners of wood or metal; non-skid aids (or warnings) where slippery objects are involved; use of bin fronts to prevent things from falling on floor or feet; appropriate precautions where sharp or heavy objects or corrosive liquids are involved.

DO provide adequate lighting—meaning candlepower sufficient to read labels on any shelf.

DO let shelving suppliers suggest accessories, such as bin dividers, reinforcing bars, shelf drawers, bin fronts, label holders, sloping shelves for round parts or wire reels.

DO try to carry small parts in cartons to the fullest possible extent.

DO arrange items in a shelf from top to bottom, according to bulk and weight; i.e., heavier and bulkier things nearest the floor.

FLAT OBJECTS are not stored so there are too many on one shelf. Smaller piles on several shelves are used even though all items are duplicates.

OVER-THE-COUNTER requisitioning is down to 60% of the total now with PRR's new stores program. Note the wide main aisle beyond the counter.

their entire shift periods. There is still a lot of come-and-get-it business, but it is mostly on incidental last-minute items.

Says Mr. Haines: "We try to encourage this because it enables us to keep the attendants working more evenly through their full shifts, rather than compelling them to rush like mad to fill requisitions at the beginning of shift periods. Then too, it helps us to know where we stand on inventory."

Another growing tendency, says Mr. Haines, is that of handling stores on pallets and/or in "unit loads" up to 6,000 lb at a time.

A third point of stress is upon specialized storage equipment to serve the storage problems of the separate items. The business of ordering whole carloads of one size of shelving on the theory that it's cheaper that way has been found to be false economy; it makes the job of handling off-standard sizes of things stored more difficult and uneconomical, he says.

Into this problem of ordering stores-holding shelves, bins and racks on a custom-tailored basis rather than by mass production comes the manufacturer of the shelving equipment. In the case of the Altoona stores, Mr. Haines' staff worked with Republic Steel Corporation's Berger Division.

Paperwork that maintains a smooth flow of things in and out of the stores area includes a detailed card file at the check-out counter to spot the exact section and bin numbers of everything stored. While the categorical grouping of parts and supplies makes it easy to find anything in a hurry, merely by running down the proper aisle, the card file provides a quick-flip reference for things less frequently demanded.

Under the heading of paperwork also comes the punched card system, which accounts for material used, as well as material manufactured or repaired. The cards channel back into the Altoona Works central stores office, where all stock records are maintained. After they are run through the tabulating machines, these cards become an important part of inventory control. The flow of paperwork to the purchasing department is described as a daily, endlessly varying river,

In the view of Mr. Haines, while procedures in stores paperwork will vary from one railroad to another, there will be many points in common when it comes to the physical facilities. Some of the cardinal "do's and dont's" which have helped guide Mr. Haines and his associates are likely to be widely applicable to railroad stores-handling.

DO select shelf sizes according to requirements. Most general sizes run to 18 in. by 36 in. by 7 ft high, and 36 in. by 36 in. by 7 ft high.

DO relate shelf storing capacity to normal materials handling capacity.

DO provide "library aids" to swift stock filling, e.g., plainly marked aisle and shelf numbers; plainly marked and logically arranged labels for part numbers.

DO consider—in the case of large storage areas—employing a "locating clerk" to help stock chasers to quickly find aisle, shelf and bin position of items sought.

DO give thought at regular intervals to these questions: (a) Is the storage job still being done the same as when the area was planned? (b) Is the equipment now adequate? (c) Does the layout permit efficient stock-chasing? (d) Is it possible for new people to find their way around the area quickly?

DON'T overplan—sufficient latitude should be given to individual departments so that each can make changes as conditions may require.

DON'T mix slow-moving items with live storage. So far as possible, items with the largest turnover should be most strategically placed.

DON'T permit "clutter" in or near aisles of storage areas—a cardinal sin, too often committed!

DON'T depend upon memory marvels. If a new man cannot find anything immediately—by name and part number, after a few days experience—better re-examine your methods.

DON'T put little things in giant bins—and giant things in tiny bins!

DON'T allow employees to reach upper shelves by climbing upon lower shelves. Where needed, step ladders should be provided.

DON'T let the main aisle of your storage area be a main aisle between other departments. It makes for an unnecessary traffic problem.

What Car Reporting System Is Best

The one that will do the job you want done. Here is a guide to today's car reporting techniques describing four basic systems, as well as a look into the future of car reporting.

Not long ago, a shipper telephoned a railroad freight traffic man asking if his car had arrived. The traffic man looked out his office window, and sure enough, the shipper's car was rolling by in a freight train.

"Your car's pulling into the yards now," replied the traffic man, and with that he held the telephone receiver out the open window so the shipper could verify the fact.

Not all roads have such direct and simple means of telling shippers where their car is, but this road had a car reporting system, unique though it may be.

Let's look at this a little more. This road had the basic ingredient of any car reporting system—communications. Here it was the telephone. Another railroad, which modestly says it does not have a car reporting system in the general sense of the word, does just about what our story tells. Each morning the trainmaster or freight agent scans the wheel reports and telephones shippers advising them of cars that arrived during the night which will be delivered that day. This practice started in one city and has grown to include all major terminals.

Communications the Start

Every railroad has the beginning of a car reporting system in its communications plant. Most roads have a printing telegraph network for messages and wheel report transmission.

Many roads use this yard-to-yard Teletype for transmitting wheel reports or train consists to provide advance switching information to yardmasters. There they have the "makings" of a car reporting system. It is but a small step to supply copies of these train consists to traffic offices or to send them into a central car service bureau or traffic office for distribution from there.

"I have a communications network. To set up a car reporting system, why do I need to spend a lot of money for all this other equipment I've been reading about—business machines, 'giant brains,' etc.?" You've posed a good question, and we'll try to answer it.

First, you want to make the most efficient use of your communications network. When you require it to carry the additional traffic for car reporting, which is more than just yard-to-yard transmission, you may have to expand your communications. Most railroads do. The amount of expansion depends upon how far-sighted your communications officers are. One road had only to add three trunk line circuits when installing a car reporting system. Another road in-

Here Are The Four Basic Systems

Punch Card Tape

In this operation, a punch card is prepared at the yard office for each arriving car. When a train is made up for departure, the cards are put in train order and then gang punched with the specific train information. Next they are run through a tabulator or collator which prints the train consist from the cards and totals the loads, empties and tonnage. A copy is usually given to the conductor with the waybills.

Then the cards are run through a card-to-tape machine to produce a perforated tape for Teletype transmission to the next yard and to the car service bureau or traffic office headquarters.

At headquarters, the perforated tape is fed into a tape-to-card machine to produce punched cards. These are sorted either manually or by machine according to destination state or city. They are then processed to produce other cards with traffic office information only and these traffic office cards are grouped for sending to particular traffic offices. Again the cards go through card-to-tape machines to make a tape for transmission via Teletype. (Some roads send all car report information to all traffic offices, and they decide which information is of use.)

Some roads vary this process of supplying car reporting information to the traffic people. For example, the New York Central prepares a daily list of all car movements, the latest movement only being reported for an individual car. These listings are then train or air mailed each afternoon to traffic offices.

Other roads such as the New Haven, Union Pacific and Southern Pacific, Teletype car reporting information to their on and off-line traffic offices.

PCT's Advantages. You mechanize the paper work in car reporting, both at the yard office and the central office. This improves operations, reducing repetitive paper work. Also, you materially reduce the time required at the central office to produce car information in the form for transmission to traffic offices. Another advantage is that you manually punch a card only once for each car; thereafter all work is done by machines.

. . . On the Other Hand considerable capital or rental money is required for each yard so equipped, i.e., initial installation costs can run up quite high. The equipment takes up considerable space, adding to the expense of costly additions to yard offices if they must be built for these machines.

Teletype Car Reporting

TRI is perhaps the simplest system. On the Rock Island it requires only Teletype equipment at yard offices, and in the general telegraph office. Also included is an electronic sorting or switching system. The essential feature of TRI is that yard clerks originate the wheel report and prepare it in a special form, which includes special codes for selecting and directing the electronic sorter at Chicago. The wheel reports are sent via Teletype from the yard office to Chicago, where by code switching the consist is fed into the electronic sorter which records the consists on magnetic film. The equipment then "reads" the film and automatically feeds information about each car to reperforators which automatically punch tapes for the various traffic offices. These tapes are fed into

for You?

stalled 19 trunk line circuits to carry reports direct to traffic headquarters. Most roads provide the additional circuits by installing carrier ("wired radio") which eliminates the necessity of stringing line wires.

To make more efficient use of your communications network, you transmit only the information you need (including coding symbols to tell machines what to do). This is where business machines and punch cards may enter the picture. All roads agree on the type of basic information to be transmitted, such as car initial and number, but some roads desire to transmit more information in the wheel report than others. Up to this point in car reporting, most everyone agrees at least as to the desirability of standardizing on information and form, although the specific symbols used may not be the same.

It's about how to prepare the information for transmission over the communications network that opinions differ. In all systems now in operation, except for experimental and test purposes, printing telegraph is used for transmission from yard-to-yard and to traffic headquarters.

Generally there are two schools of thought as to how the information should be prepared for transmission. One group favors punch cards and business machines and the other contends that Teletype equipment only is the most efficient. Either method accomplishes the desired result of mechanizing the handling of the car report information and eliminating unnecessary duplication of effort. Pro's and con's of the two are tabulated in the accompanying descriptions of the four basic systems.

Interchange of Information

Car reporting information from the yard offices goes, in many cases, to a central car service bureau. This central office usually does the sorting of the information on individual cars, and prepares the reports for sending to the traffic offices.

For clarity in this discussion, the four basic car reporting systems may be designated as follows:

PCT is punch card Teletype
TRI is Teletype machine, Rock Island
TMC is Teletype machine, C&O
TMS is Teletype machine, Santa Fe

The last three designations apply to systems developed on specific railroads. The PCT system, with minor variations, is used by several railroads, among them the New Haven, Union Pacific, Southern Pacific, New York Central and Erie.

Car reporting is almost universal in its application on railroads. What is not universal is compatibility of systems. That is, few roads can interchange car report information readily. One of the few systems in interchange is that of the Southern Pacific, including Texas & New Orleans lines, Union Pacific, and just recently the Chicago & North Western and the Milwaukee. Using the same form and language for car reporting information, an SP tape transmitted to Ogden will also be received at the UP yard office there. Thus the UP yardmaster has advance information as to cars coming to his road. This car report information is also passed along to the North Western and Milwaukee for cars destined to points on their roads.

One proponent of compatible car report systems, Dr. Fred J. Knight, says "The railroads might go so far as to establish a cooperative car reporting service open to all railroads. Such a unified service might have 50 data processing centers strategically

(Continued on page 58)

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equipment for transmission to the proper traffic offices.

The Advantages. TRI requires only the use of Teletype equipment, which is familiar to all personnel. No additional equipment is required at yard offices. Clerks are readily trained to prepare the wheel report. At the general telegraph office, the only additional equipment is the electronic sorter. Here a minimum of attendants are required. Copies from the local traffic office can be obtained from the Teletype page printer.

. . . On the Other Hand accuracy of the system depends upon proper and accurate preparation of the wheel report in the yard office, and from then on there is relatively no check on accuracy. Some contend that business machine sorts and tabulators are good error catchers.

The C&O System

TMC utilizes Teletype equipment at the yard office where a short piece of perforated tape is prepared for each car. This is filed with the waybill and when the train is ready to depart these tapes are fed into a Teletype machine to produce a long tape with the essential train information. This tape is then transmitted to a central telegraph office for relaying to a car movement bureau. Here the tape is run through a tape-to-card machine producing a punch card for every car in the train. These cards are then sorted according to destination, and given traffic office codes. Then they are run through card-to-tape machines to produce a perforated tape for transmission to traffic offices.

The Advantages. Again, yard clerks work with Teletype equipment with which they are familiar. This equipment takes up less space than do business machines. Present personnel are able to produce the train consists readily, without extensive training. Only small additions of Teletype equipment are needed at yard offices, most of the present equipment being suitable for car reporting functions.

. . . On the Other Hand production of train consist tapes by Teletype is not as efficient as with business machines. Manual handling of small unit tapes (one for each car) slows down operations, according to some people.

Santa Fe Has TMS

In this system, yard office clerks prepare the train consist or wheel report by Teletype. These are sent via direct circuits to the car service office at Topeka, Kan. Here the incoming tapes are put through tape-to-card machines and the sorting for traffic office destinations is done by business machines. In this system a master card is kept for each car for one month. A quick check of the card will show the latest movement. Daily reports are sent via Teletype to on and off-line traffic offices so customers can be kept informed.

The Advantages. Only Teletype equipment is required at the yard office. Another advantage claimed for TMS is that all business machines, as in TMC, are at one central office, where machine processing can be closely watched and efficiency maintained.

. . . On the Other Hand yard clerks must perform their work accurately, because they are responsible for putting the wheel report information in the correct order and arrangement in the wheel report forms.

FRED G. GURLEY

ERNEST S. MARSH

Santa Fe Gets New 'Chief'

Ernest S. Marsh, vice-president for finance since 1948, becomes president—Fred G. Gurley, president since 1944, moves to board chairmanship

The new Santa Fe president has spent his entire business career with that company. He knows it from the bottom as well as the top. A quiet-spoken but easily articulate man, Mr. Marsh talks readily about the Santa Fe and the railroad industry. He grasps immediately the point of a question; smiles as be begins his answer; chooses his words with the fluent precision of a mature lawyer; and speaks in a soft low-baritone voice.

"Modernization and improvement on the Santa Fe is the keynote in our dedication to service to the customer. And the people of the Santa Fe continue to be the important element in performing that service," says the newly elected leader of the Santa Fe's forces.

Ernest S. Marsh was born in Lynchburg, Va., in 1903. He went to work in his mid-teens as a clerk for the Santa Fe at Clovis, N.M., in 1918. After 14 years on the Pecos division superintendent's force, his job was abolished in a mid-depression personnel shakeup. He had a choice between taking another job in the operating department or entering the accounting department. The latter alternative would involve moving his family—wife, three daughters, two sons—to Amarillo, Texas. He decided to make the move. It led to his later becoming auditor of disbursements at Topeka, Kan., then moving to the executive offices. He was chief clerk to president, and executive assistant to president, prior to his election as vice-president, finance, in 1948.

A trim man of slightly more than average height, Mr. Marsh looks five to ten years younger than his actual mid-fifties. His manner is quiet and friendly, but resolute.

From his experience as the road's chief financial officer, Mr. Marsh discusses the Santa Fe's low funded-debt ratio with some pride. He is not, however, a dogmatic pay-as-you-goer. "We may borrow some more money in the future," he says. "It depends on the circumtances we find ourselves in."

All-Around Experience

The broad knowledge he shows in his conversation makes it clear that he is a great deal more than a finance specialist. "My work in the executive offices has been pretty broad in scope," he explains. "Finance is only one aspect of it."

Mr. Marsh's formal education stopped after high school at Clovis. It was resumed later in the advanced management program at the Harvard Business School. When Mr. Marsh was in attendance on this program, a few years ago, he was chosen by his fellow-students (i.e., executives from a wide range of large industries) as the chairman of the group.

As his top aide Mr. Marsh will have John S. Reed, 40, who becomes executive assistant to the president. A graduate of Yale University, Mr. Reed has been in Santa Fe employ since 1939 (except for his Navy service during World War II); and has advanced through the operating department.

Though relinquishing the office of president—which he has held during the eventful years since 1944—Fred G. Gurley remains the Santa Fe's chief executive officer. He has become board chairman, and is the road's first executive to hold that title since 1920.

At 68, Mr. Gurley has two years before reaching the Santa Fe's normal retirement age.

And while Mr. Gurley retains top executive authority, his transfer of responsibility to Mr. Marsh has not been merely a nominal one. And this fact he has symbolized in a characteristically forthright manner. That is—he has relinquished the presidential office space in Chicago's Railway Exchange Building; and Mr. Marsh has moved into it. Mr. Gurley has moved into a smaller office nearby.

RAILROADS WILL BENEFIT IN . . .

Ottawa's Plans for the Future

Retirement of through-city railroad trackage is the key to a plan under way at Ottawa, Ont., for relieving urban congestion. Rights of way thus abandoned will be used for arterial roads and parkways.

Duplicate trackage, wherever possible, is being eliminated and replaced by joint, CTC-governed, CNR-CPR operation in the greater terminal area. New freighthouses and new yards, too, are a part of the overall scheme which has already cost Canada's Federal District Commission some $3 million in abandonments and new line and facility construction alone —exclusive of land costs. Over $10 million has been expended to date on land for railways and parkways.

The entire project is slated to cost about $13 million for railway rearrangement and facilities exclusive of land, with the final step—construction of a new union passenger terminal—probably decades away.

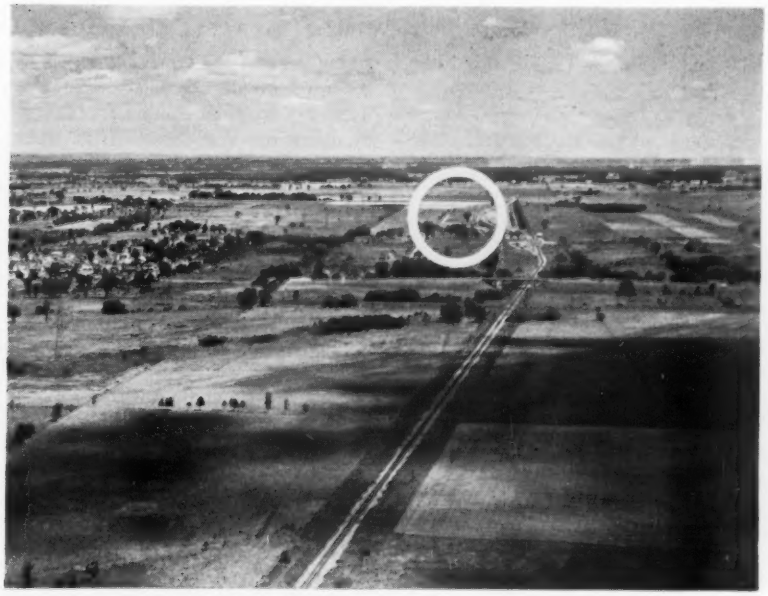
Someone once termed it "growth congestion." But whatever the name, it's that situation created in urban areas as a result of growth in population, prosperity, motor traffic and industry. Many city governments are pondering how best to alleviate the congestion which has more than kept pace with the expansion within their boundaries. One city which has gone well beyond the planning, proposing and pondering stage is Ottawa.

Right now this city, capital of Canada and home to more than a quarter of a million, is in the midst of a multi-million-dollar redevelopment project:

Here's how it all came about:

Until recently, Ottawa was served by three railroads: the Canadian National, Canadian Pacific and New York Central. For the better part of a century, the city's orderly development has been complicated by railroad trackage and other rail facilities in what has become downtown Ottawa and in Hull, directly across the Ottawa river.

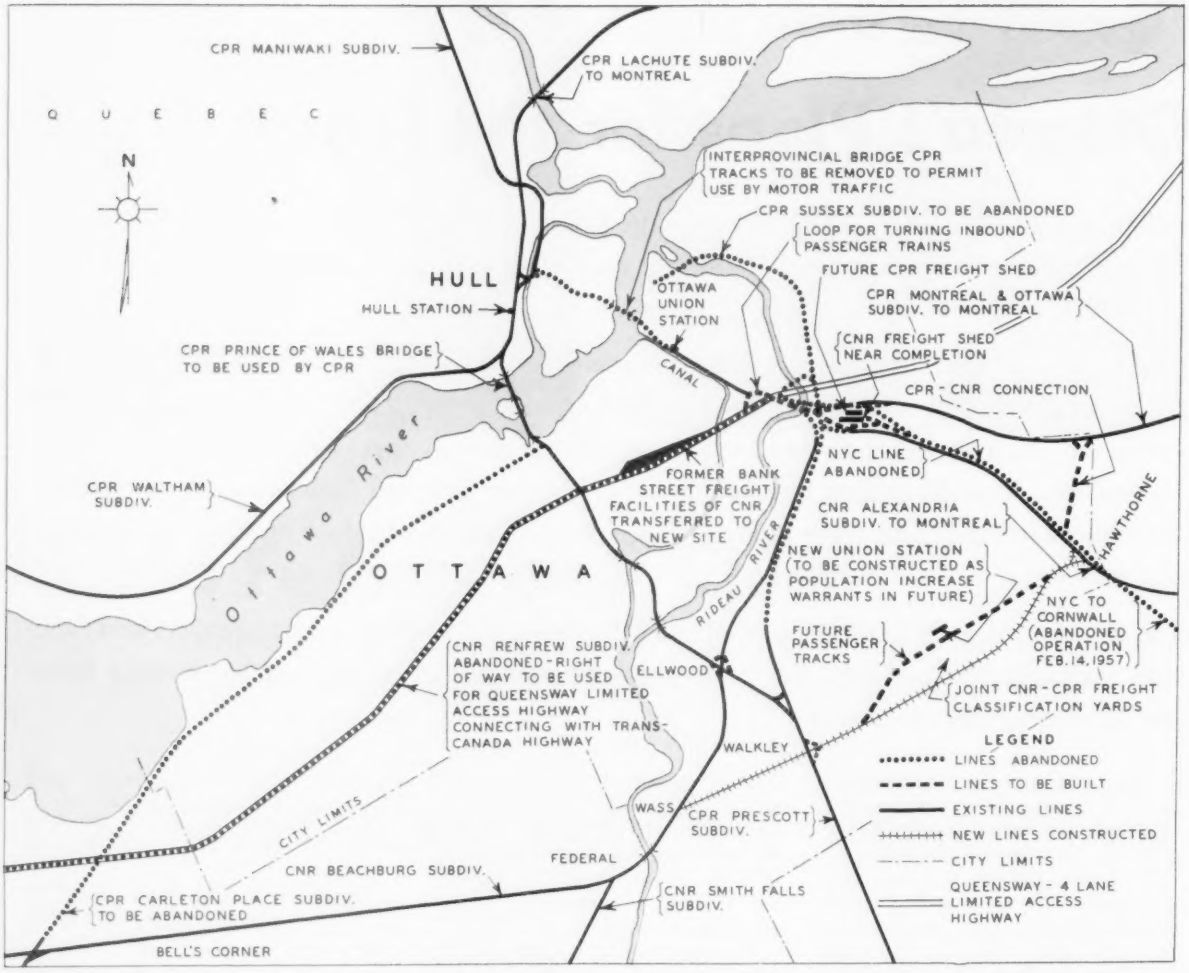
For years, crosstown and through-town trackage and centrally located freight terminal operations have seriously hampered urban development and were held responsible for blighting sections of the city's central region.



JOINT CPR-CNR freight classification yards have been constructed south of the city on a likewise newly constructed main line. Site of future Union Station is indicated by circle.

The "Master Plan"

Canada's Federal District Commission, originator and executor of the redevelopment project, found that more than 150 level grade crossings and blocked streets existed in the urban area. These are rapidly disappearing under what the commission terms its "Master Plan." The fundamental element of this plan, according to S. B. Wass, railway consultant


CPR MANIWAKI SUBDIV.
CPR LACHUTE SUBDIV. TO MONTREAL
Q U E B E C
N
INTERPROVINCIAL BRIDGE CPR TRACKS TO BE REMOVED TO PERMIT USE BY MOTOR TRAFFIC
CPR SUSSEX SUBDIV. TO BE ABANDONED
LOOP FOR TURNING INBOUND PASSENGER TRAINS
FUTURE CPR FREIGHT SHED
HULL
HULL STATION
OTTAWA UNION STATION
CPR MONTREAL & OTTAWA SUBDIV. TO MONTREAL
CNR FREIGHT SHED NEAR COMPLETION
CPR PRINCE OF WALES BRIDGE TO BE USED BY CPR
CANAL
CPR - CNR CONNECTION
NYC LINE ABANDONED
CPR WALTHAM SUBDIV.
FORMER BANK STREET FREIGHT FACILITIES OF CNR TRANSFERRED TO NEW SITE
CNR ALEXANDRIA SUBDIV. TO MONTREAL
HAWTHORNE
Ottawa River
O T T A W A
NEW UNION STATION (TO BE CONSTRUCTED AS POPULATION INCREASE WARRANTS IN FUTURE)
RIDEAU RIVER
NYC TO CORNWALL (ABANDONED OPERATION FEB. 14, 1957)
FUTURE PASSENGER TRACKS
CNR RENFREW SUBDIV. ABANDONED - RIGHT OF WAY TO BE USED FOR QUEENSWAY LIMITED ACCESS HIGHWAY CONNECTING WITH TRANS-CANADA HIGHWAY
ELLWOOD
JOINT CNR - CPR FREIGHT CLASSIFICATION YARDS
WALKLEY
LEGEND
LINES ABANDONED
LINES TO BE BUILT
EXISTING LINES
NEW LINES CONSTRUCTED
CITY LIMITS
QUEENSWAY - 4 LANE LIMITED ACCESS HIGHWAY
WASS
CPR PRESCOTT SUBDIV.
CITY LIMITS
FEDERAL
CNR BEACHBURG SUBDIV.
CPR CARLETON PLACE SUBDIV. TO BE ABANDONED
CNR SMITH FALLS SUBDIV.
BELL'S CORNER

WORK BEGAN IN 1950 on Canada's Federal District Commission's "Master Plan" for the urban development of Ottawa. Now in full swing, the job is expected to be completed sometime around 1982 when the new Union Station will be built.

of the commission, was the solution of the city's railroad problem. Here's how they're going about solving that problem:

"The key to the whole undertaking," says the commission, "is the removal of practically all of the existing railways from the central parts of the urban area to the southern and eastern boundaries of Ottawa and the northern and western sections of Hull."

The rights of way thus made available will be used for arterial roads and parkways.

Of first importance, in the eyes of the commission, was the removal of the CNR's crosstown tracks and the attendant yard operations—especially at Bank street (see map). At this writing, CNR crosstown trackage has been completely abandoned and is being taken up. Relocation of this trackage was first recommended in 1915 and again in 1924—with little success.

The project now under way aims at using the abandoned right of way for a limited-access crosstown highway. This roadway—called the Queensway—will connect with highway 17 east and west of Ottawa (a link in the Trans-Canada Highway) constituting, in effect, a rerouting of the present highways to bypass the congested central governmental and commercial heart of the capital. Construction of the highway is scheduled to start later this year.

More for Less

The appearance of the city will be greatly improved as a result of the work now under way. Economic benefits to the railroads and the municipality will be even greater. Railroad operations in the city will be greatly simplified and less costly. One part of the project calls for establishment of a railway terminal company to simplify operations and eliminate, as much as possible, duplication of lines and facilities.

Railroad properties abandoned in the process will, the commission points out, permit greater urban redevelopment and improvement in the municipal tax structure, to say nothing of the savings and convenience which will evolve through the elimination of grade crossings.

Work according to the Master Plan was begun in earnest in 1950 on the construction of replacement rail facilities along the southern boundaries of Ottawa. A connection, 12 miles west of the Ottawa Union Station, was made (not shown on the map) between the CNR's Renfrew and Beachburg subdivisions, thus releasing the CNR crosstown tracks for abandon-

ment. This connection was opened in 1952.

At the same time, 5½ miles of main track were constructed bypassing the central area of the city from the Rideau river to Hawthorne. Existing highways were carried over this line on bridges constructed at two locations. Construction was also completed of nine miles of yard trackage, a yard office, a freight car repair area and auxiliary facilities.

In 1952 work was begun on a CTC system to bring some 26 miles of CNR operation in the greater terminal area under the control of the dispatcher in Union Station. This system was placed in operation June 9, 1955.

On August 9 of that same year, the CNR transferred its freight classification and car maintenance operations from the Bank Street region on the old crosstown line to the new location.

With this shift, some 75 per cent of the CNR operations had been removed from the core of the city. A new CNR freight shed is now under construction in the southern portion of the city and will be opened later this year. As of the first of this year, the work thus far described had cost the commission an estimated $3 million, exclusive of land.

Joint Trackage

The commission is now looking at what it terms Stage II of the relocation project, calling for joint CNR-CPR operation of *all* rail facilities south of the Ottawa river. The establishment of joint operation will allow the retirement of considerable duplicate trackage and will require the construction of a number of connections between the two railroads as well as expansion of the CTC system to include CPR operations in the region.

When this work has been completed, it will be possible to abandon the CPR's Sussex and Carleton Place subdivision trackage within the city. In addition, CPR trackage will be removed from the Interprovincial bridge, permitting its exclusive use for motor traffic. The connection to Hull via the Prince of Wales bridge will remain and will continue to be operated by the CPR.

The present station facilities, built in 1911—when Ottawa's population was less than half of what it is today—are to be rearranged. This year, the CNR local freighthouse and yard facilities will be moved to their new location just east of the Rideau river, Track arrangements are being made for turning trains entering Union Station; henceforth, trains will be pushed, rather than pulled, into the station which will become "one-ended."

This will place passenger carrying cars under the train shed rather than beyond it as at present, and closer to street access.

The last phase of the redevelopment plan is scheduled for far in the future. At that time, when the population of the city has grown southward to the point where the new site will be closer and more accessible to the bulk of the population, it is contemplated that a new Union Station will be built. The present station will then be abandoned.

Looking Far Ahead

The commission points out that the railroad relocation phase of the national capital plan is now about two years ahead of schedule. It is expected that it will take another 25 years for its completion.

Some Changes Will Be Made

INTERPROVINCIAL BRIDGE, linking Hull (foreground) with Ottawa, is destined to have its trackage removed, will serve exclusively for motor vehicle traffic.

SLATED FOR ABANDONMENT is Ottawa's classic Union Station in the heart of the city's commercial area. When? Best guess to date is sometime about 25 years from now.

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Freight Operating Statistics of Large Railways—Selected Items

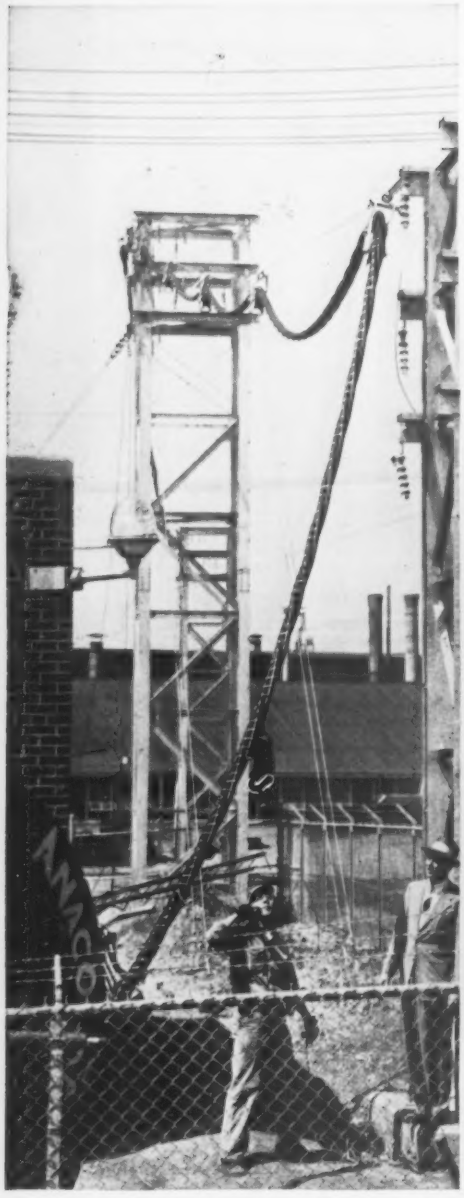
Region, Road and Year		Miles of road operated	Train-miles	Locomotive-Miles: Principal and helper	Locomotive-Miles: Light	Car-Miles: Loaded (thousands)	Car-Miles: Per cent loaded	Ton-miles (thousands): Gross excl. locos & tenders	Ton-miles (thousands): Net rev. and non-rev.	Road-locos. on lines: Serviceable: Unstored	Road-locos. on lines: Serviceable: Stored	Road-locos. on lines: B.O.	Road-locos. on lines: Per cent B.O.
New Eng. Region													
Boston & Maine	1957	1,560	230,557	237,047	10,522	9,282	65.1	620,311	251,272	72	..	2	2.7
	1956	1,562	253,187	258,266	10,421	9,916	66.2	646,192	259,080	68	..	2	2.9
N. Y., N. H. & Hfd.	1957	1,739	236,844	236,844	17,078	10,708	65.9	684,569	271,537	83	..	13	13.5
	1956	1,746	270,606	270,608	17,031	11,681	67.8	716,407	286,695	89	..	15	14.4
Great Lakes Region													
Delaware & Hudson	1957	771	169,248	174,704	6,984	9,150	68.8	651,736	350,979	40	..	2	4.8
	1956	792	182,888	188,939	7,981	10,176	69.7	710,596	373,186	40	..	2	4.8
Del., Lack. & Western	1957	962	252,850	264,333	22,726	11,700	68.0	767,950	331,297	65	..	1	1.5
	1956	962	302,671	317,681	27,996	12,762	70.7	824,649	369,093	59	..	2	3.3
Erie	1957	2,207	541,355	549,397	15,233	30,032	68.6	1,881,870	763,218	169	..	..	..
	1956	2,225	566,174	572,304	17,887	32,118	70.4	1,949,440	799,405	162	..	3	1.8
Grand Trunk Western	1957	951	245,208	250,939	1,885	7,958	58.3	585,327	231,152	53	7	19	24.1
	1956	951	293,147	298,494	2,433	9,079	61.7	651,057	273,208	54	..	22	28.9
Lehigh Valley	1957	1,134	207,047	210,086	6,913	9,286	62.9	646,357	286,256	34	..	..	..
	1956	1,137	213,893	217,660	8,635	10,558	68.3	713,415	336,415	34	..	1	2.9
New York Central	1957	10,570	2,183,997	2,207,482	96,341	87,043	58.2	6,473,799	2,814,902	539	3	51	8.6
	1956	10,565	2,527,775	2,574,055	99,705	100,694	61.0	7,252,938	3,231,104	607	4	91	13.0
New York, Chic. & St. L.	1957	2,155	694,995	711,576	7,630	29,734	64.0	2,157,182	949,401	176	..	19	9.7
	1956	2,154	742,298	765,284	7,460	30,948	65.6	2,160,460	976,157	179	1	15	7.7
Pitts. & Lake Erie	1957	221	64,729	64,729	....	2,754	67.0	238,468	147,501	14	..	..	..
	1956	221	70,463	70,735	....	2,960	65.3	254,872	155,126	15	..	..	..
Wabash	1957	2,379	499,348	499,521	5,705	22,169	65.3	1,473,317	587,116	110	..	3	2.7
	1956	2,381	481,042	483,886	5,946	22,154	67.8	1,428,839	576,319	101	..	2	1.9
Central Eastern Region													
Baltimore & Ohio	1957	5,897	1,480,770	1,644,442	147,334	58,834	62.1	4,751,022	2,294,725	459	6	104	18.3
	1956	5,910	1,634,521	1,828,551	168,867	62,059	62.0	5,125,534	2,446,614	445	1	82	15.5
Bessemer & Lake Erie	1957	208	32,740	33,728	86	1,186	62.4	126,998	78,673	14	1	..	..
	1956	208	39,074	39,352	60	1,606	67.0	169,444	108,565	14	3	..	..
Central RR Co. of New Jersey	1957	612	103,060	104,178	5,561	3,898	66.6	283,432	144,945	68	..	2	2.9
	1956	613	121,389	122,743	6,287	4,948	67.5	368,193	196,392	61	..	4	6.2
Chicago & Eastern Ill.	1957	862	119,299	119,299	2,896	5,525	64.8	404,838	196,019	28	..	4	12.5
	1956	868	131,437	131,437	3,131	5,358	64.6	395,485	191,411	28	..	1	3.4
Elgin, Joliet & Eastern	1957	236	89,479	89,936	....	2,671	61.0	221,922	118,201	36	..	4	10.0
	1956	236	91,756	92,613	....	2,922	64.6	238,193	128,602	36	..	4	10.0
Pennsylvania System	1957	9,902	2,816,391	2,987,679	206,411	114,944	63.0	8,440,032	3,893,910	832	39	198	18.5
	1956	9,892	2,942,483	3,131,020	234,603	124,220	65.1	8,894,224	4,147,943	784	46	389	31.9
Reading	1957	1,303	336,847	339,225	12,215	13,413	61.7	1,113,881	593,757	160	19	20	10.1
	1956	1,305	378,553	381,746	13,534	15,083	62.3	1,244,125	667,882	163	..	30	15.5
Western Maryland	1957	846	163,195	170,768	10,844	6,742	61.9	579,106	328,174	46	..	..	..
	1956	846	174,678	183,835	12,434	7,064	60.2	610,013	339,136	37	..	..	..
Pocahontas Region													
Chesapeake & Ohio	1957	5,067	1,413,575	1,418,862	26,922	61,074	54.9	5,508,476	3,032,560	594	8	74	10.9
	1956	5,067	1,558,845	1,588,369	50,739	63,290	56.8	5,559,775	3,076,627	461	1	110	19.2
Norfolk & Western	1957	2,110	694,501	743,925	62,699	33,536	56.9	3,244,255	1,785,531	207	6	21	9.0
	1956	2,103	760,703	818,216	73,093	35,910	58.2	3,370,446	1,856,539	226	3	25	9.8
Southern Region													
Atlantic Coast Line	1957	5,283	744,173	744,173	10,713	24,450	58.1	1,845,895	803,714	131	..	4	3.0
	1956	5,278	877,465	877,472	9,767	28,730	59.3	2,172,081	972,015	231	..	5	2.1
Central of Georgia	1957	1,731	172,845	172,845	1,793	7,196	68.2	507,570	248,280	32	..	3	8.6
	1956	1,731	191,096	191,121	1,580	7,761	69.6	532,357	261,926	33	..	1	2.9
Gulf, Mobile & Ohio	1957	2,717	258,390	258,390	72	13,104	68.5	1,044,201	491,949	81	..	10	11.0
	1956	2,717	261,653	261,653	107	15,209	69.9	1,024,834	494,925	84	..	7	7.7
Illinois Central	1957	6,503	1,093,347	1,093,347	29,964	41,286	60.5	3,418,673	1,549,727	273	47	63	16.4
	1956	6,531	1,161,830	1,163,890	34,535	49,715	62.8	3,616,482	1,683,435	323	9	137	29.2
Louisville & Nashville	1957	4,713	816,284	817,763	13,641	30,316	61.5	2,308,811	1,174,919	141	..	3	2.1
	1956	4,714	881,753	889,562	18,224	32,901	62.4	2,482,850	1,269,083	192	2	23	10.6
Nash., Chatt. & St. Louis	1957	1,043	151,885	155,602	3,220	4,937	68.8	333,327	157,336	40	..	3	7.0
	1956	1,043	177,045	181,195	4,561	5,791	69.0	391,448	184,541	49	..	4	7.5
Seaboard Air Line	1957	4,051	642,126	642,126	2,474	25,572	62.3	1,895,249	865,551	153	..	6	3.8
	1956	4,051	679,669	679,669	1,977	27,534	62.8	2,009,296	920,690	146	..	9	5.8
Southern	1957	6,251	796,936	796,006	9,111	39,356	66.7	2,607,590	1,202,606	164	12	12	6.4
	1956	6,259	891,554	891,614	13,119	43,496	67.6	2,866,517	1,333,764	269	..	3	1.1
Northwestern Region													
Chicago & North Western	1957	9,296	788,322	789,273	8,949	29,798	61.6	2,196,894	893,940	176	2	7	3.8
	1956	9,344	834,638	837,906	13,109	34,698	68.0	2,338,786	1,051,132	192	13	58	22.1
Chicago Great Western	1957	1,437	125,878	125,878	192	7,468	65.3	528,733	243,455	31	..	1	3.1
	1956	1,437	129,352	129,352	175	7,692	72.1	498,535	232,144	27	..	6	18.2
Chic., Milw., St. P. & Pac.	1957	10,621	837,920	849,296	15,429	36,719	65.5	2,531,676	1,133,846	287	1	17	5.6
	1956	10,633	925,816	940,305	16,651	40,325	66.9	2,745,831	1,261,648	285	7	12	3.9
Chic., St. P., Minn. & Omaha	1957	566	32,048	32,062	622	568	47.7	48,572	20,936	17	36	22	29.3
	1956	570	31,761	32,118	457	572	55.2	43,621	19,778	30	25	15	21.4
Duluth, Missabe & Iron Range	1957	8,273	1,016,771	1,020,162	34,513	35,538	68.0	2,492,745	1,157,391	228	72	10	3.2
	1956	8,272	1,092,128	1,098,302	37,220	40,130	69.0	2,780,833	1,295,411	257	82	57	14.4
Great Northern	1957	4,169	366,649	368,179	1,530	12,602	65.4	824,680	388,815	81	5	9	9.5
	1956	4,171	390,904	394,274	3,370	13,720	64.8	948,441	433,671	82	11	4	4.1
Minneap., St. P. & S. Ste. M.	1957	6,536	715,432	727,769	19,175	29,581	69.2	1,991,931	918,895	241	63	26	7.9
	1956	6,569	833,798	850,628	26,190	34,114	67.7	2,302,790	1,041,497	251	61	51	14.0
Northern Pacific	1957	944	131,776	131,776	1,274	5,274	70.0	347,772	156,131	53	..	2	3.6
	1956	946	138,929	139,221	1,278	5,936	74.0	396,247	191,555	53	..	10	15.9
Central Western Region													
Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1957	13,172	2,206,773	2,328,021	44,889	102,659	63.3	7,134,798	2,733,406	553	48	64	9.6
	1956	13,124	2,300,126	2,411,472	62,749	105,140	65.1	7,149,882	2,793,365	528	80	38	5.9
Chic., Burl. & Quincy	1957	8,765	938,886	934,140	22,740	42,605	66.5	2,850,557	1,244,827	149	44	31	13.8
	1956	8,771	1,033,654	1,029,050	26,381	47,375	69.0	3,113,778	1,390,714	214	29	47	16.2
Chic., Rock I. & Pac.	1957	7,581	888,806	889,628	2,399	35,863	62.1	2,556,521	1,054,124	171	..	4	2.3
	1956	7,580	855,667	854,815	1,048	35,001	63.8	2,462,801	1,018,659	169	..	6	3.4
Denver & R. G. Wn.	1957	2,155	271,503	290,748	33,236	13,350	70.8	929,651	457,899	74	6	4	4.8
	1956	2,155	283,390	302,923	27,804	13,406	69.1	937,728	451,511	71	8	29	26.9
Southern Pacific	1957	8,036	1,748,445	1,818,014	82,543	84,277	65.3	5,651,418	2,352,995	600	123	45	5.9
	1956	8,066	1,935,526	2,037,470	149,396	90,531	66.5	6,032,561	2,551,136	606	80	85	11.0
Union Pacific	1957	9,786	1,920,946	1,970,479	76,159	91,781	66.4	6,210,691	2,709,073	399	71	98	17.3
	1956	9,805	2,115,585	2,164,693	89,882	98,633	68.2	6,539,727	2,854,305	407	88	117	19.1
Western Pacific	1957	1,190	202,662	221,182	13,016	9,266	71.8	604,974	277,746	45	..	1	2.2
	1956	1,190	227,170	240,680	11,832	10,253	69.4	686,903	313,647	45	..	1	2.2
Southwestern Region													
Kansas City Southern	1957	886	149,350	149,373	333	8,601	65.2	644,751	297,981	25	..	1	3.8
	1956	886	154,466	154,501	512	8,901	67.8	635,692	289,987	28	..	2	6.7
Louisiana & Arkansas	1957	746	82,530	82,530	88	3,777	63.8	300,005	143,361	19	..	..	..
	1956	753	94,174	94,174	302	4,251	65.2	322,145	149,566	19	..	..	..
Mo.-Kans.-Texas Lines	1957	3,172	299,722	299,722	3,380	13,779	63.2	927,112	318,753	71	..	5	6.6
	1956	3,230	328,780	328,780	3,359	14,965	66.5	970,962	424,284	86	..	3	3.4
Missouri Pacific	1957	9,662	1,127,355	1,127,355	8,957	52,910	63.4	3,675,791	1,625,066	328	..	50	13.2
	1956	9,709	1,239,364	1,239,364	10,064	54,837	65.6	3,817,109	1,694,552	328	10	43	11.3
Texas & Pacific	1957	1,822	285,588	285,588	4,941	14,228	61.0	1,060,766	396,138	44	..	1	2.2
	1956	1,822	312,579	312,579	6,200	14,983	62.4	1,092,256	422,263	64	..	..	..
St. Louis-San Francisco	1957	4,573	569,044	569,044	5,413	22,644	68.0	1,517,092	699,441	100	..	12	10.7
	1956	4,573	597,213	600,088	5,638	24,408	66.6	1,644,779	748,850	102	..	6	5.6
St. Louis Southw. Lines	1957	1,554	322,546	322,566	1,531	15,743	67.9	1,005,545	449,492	51	..	1	1.9
	1956	1,554	333,978	333,994	1,621	16,870	71.6	1,047,272	468,146	54	..	3	5.3
Texas & New Orleans	1957	4,285	610,742	610,742	616	26,853	63.5	1,889,519	824,795	136	..	2	1.4
	1956	4,302	674,049	674,049	2,900	29,049	66.5	1,974,564	872,244	128	..	7	5.2

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

For the month of February 1957 Compared with February 1956

Region	Road	Year	Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos and tenders	G.t.m.per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car-miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng. Region	Boston & Maine	1957	1,372	9,182	10,554	1.3	41,542	2,699	1,093	27.1	844	47.9	5,753	15.4	136.8
		1956	1,623	9,374	10,997	4.0	40,027	2,557	1,025	26.1	822	47.5	5,719	15.7	154.3
	N. Y., N. H. & Htfd.	1957	2,086	14,007	16,093	2.6	47,072	2,890	1,146	25.4	604	36.2	5,577	16.3	117.9
		1956	1,800	18,015	19,815	1.9	43,134	2,647	1,059	24.5	495	29.8	5,662	16.3	115.2
Great Lakes Region	Delaware & Hudson	1957	1,990	6,522	8,512	4.5	64,644	3,867	2,082	38.4	1,427	54.1	16,258	16.8	172.6
		1956	2,134	6,471	8,605	4.2	67,457	3,902	2,049	36.7	1,592	62.3	16,248	17.4	181.2
	Del., Lack. & Western	1957	4,279	11,025	15,304	3.1	54,686	3,078	1,328	28.3	718	37.3	12,299	18.0	171.6
		1956	3,595	11,832	15,427	2.5	49,098	2,765	1,238	28.9	811	39.6	13,230	18.0	211.2
	Erie	1957	6,371	20,188	26,559	2.2	67,253	3,501	1,420	25.4	1,011	58.0	12,351	19.3	131.3
		1956	6,957	20,438	27,395	3.2	65,218	3,469	1,423	24.9	1,017	58.1	12,389	18.9	138.8
	Grand Trunk Western	1957	3,497	8,952	12,449	6.7	51,748	2,404	949	29.0	634	37.5	8,681	21.7	133.5
		1956	3,702	10,602	14,304	7.3	46,691	2,249	944	30.1	659	35.5	9,906	21.0	150.9
	Lehigh Valley	1957	4,266	9,862	14,128	4.0	70,849	3,135	1,388	30.8	729	37.6	9,015	22.7	245.4
		1956	7,644	8,437	16,081	4.6	69,439	3,369	1,589	31.9	724	33.2	10,203	20.8	241.3
	New York Central	1957	49,812	98,292	148,104	2.8	49,489	3,010	1,309	32.3	708	37.6	9,511	16.7	156.2
		1956	50,573	99,655	150,228	3.1	48,961	2,918	1,300	32.1	733	37.4	10,546	17.1	146.8
	New York, Chic. & St. L.	1957	7,418	18,207	25,625	6.1	55,460	3,153	1,388	31.9	1,324	64.8	15,734	17.9	144.8
		1956	7,168	19,060	26,228	5.4	50,756	2,975	1,344	31.5	1,300	62.8	15,627	17.4	150.3
	Pitts. & Lake Erie	1957	3,417	9,017	12,434	5.1	54,644	3,703	2,290	53.6	425	11.8	23,837	14.8	181.0
		1956	3,299	9,406	12,705	3.5	56,840	3,630	2,209	52.4	431	12.6	24,204	15.7	177.1
	Wabash	1957	8,891	11,304	20,195	3.4	63,965	2,965	1,181	26.5	1,045	60.4	8,814	21.7	169.0
		1956	8,837	10,408	19,245	4.4	65,882	2,981	1,202	26.0	1,058	60.0	8,346	22.2	172.2
Central Eastern Region	Baltimore & Ohio	1957	44,361	55,563	99,924	4.0	50,305	3,267	1,578	39.0	812	33.5	13,898	15.7	117.4
		1956	44,022	49,844	93,866	5.4	48,321	3,185	1,520	39.4	905	37.0	14,275	15.4	137.1
	Bessemer & Lake Erie	1957	5,129	862	5,991	8.6	64,433	4,053	2,511	66.3	523	12.6	13,508	16.6	98.7
		1956	4,973	1,359	6,332	15.8	71,285	4,537	2,907	67.6	675	14.9	17,998	16.4	95.1
	Central RR Co. of New Jersey	1957	2,194	10,986	13,180	6.6	39,110	2,866	1,466	37.2	396	16.0	8,459	14.2	79.9
		1956	2,355	11,061	13,416	6.6	44,629	3,158	1,684	39.7	506	18.9	11,048	14.7	95.2
	Chicago & Eastern Ill.	1957	2,501	4,520	7,021	9.6	62,678	3,411	1,652	35.5	1,057	46.0	8,121	18.5	142.6
		1956	2,539	3,322	5,861	8.5	56,289	3,017	1,460	35.7	1,116	48.3	7,604	18.7	162.0
	Elgin, Joliet & Eastern	1957	7,090	20,274	27,364	3.6	19,111	2,624	1,397	44.3	178	6.6	17,888	7.7	104.3
		1956	6,738	12,211	18,949	5.0	20,028	2,754	1,487	44.0	242	8.5	18,790	7.7	106.6
	Pennsylvania System	1957	108,557	87,565	196,122	7.6	51,777	3,079	1,420	33.9	709	33.2	14,044	17.3	116.2
		1956	97,016	94,848	191,864	7.8	52,590	3,100	1,449	33.5	746	34.2	14,494	17.4	103.5
	Reading	1957	12,045	23,851	35,896	2.4	51,016	3,307	1,763	44.3	578	21.2	16,274	15.4	76.3
		1956	10,902	22,592	33,494	3.6	49,561	3,287	1,764	44.3	665	24.1	17,648	15.1	83.6
	Western Maryland	1957	4,973	4,812	9,785	2.1	51,389	3,620	2,051	48.7	1,211	40.2	13,854	14.5	157.6
		1956	4,674	6,511	11,185	2.4	45,173	3,549	1,973	48.0	1,057	36.5	13,823	12.9	206.0
Pocahontas Region	Chesapeake & Ohio	1957	52,098	29,160	81,258	.6	72,423	3,920	2,158	49.7	1,336	49.0	21,375	18.6	82.1
		1956	46,816	32,916	79,732	1.4	66,687	3,595	1,989	48.6	1,368	49.5	20,938	18.7	106.7
	Norfolk & Western	1957	38,512	10,994	49,506	1.3	82,264	4,800	2,642	53.2	1,298	42.8	30,222	17.6	132.8
		1956	33,113	10,309	43,422	2.0	73,826	4,552	2,507	51.7	1,464	48.6	30,442	16.7	130.1
Southern Region	Atlantic Coast Line	1957	18,790	18,926	37,716	4.5	46,396	2,494	1,086	32.9	760	39.8	5,433	18.7	217.8
		1956	17,737	19,920	37,657	4.3	45,631	2,484	1,112	33.8	894	44.5	6,350	18.4	143.5
	Central of Georgia	1957	2,301	6,674	8,975	2.8	51,431	2,941	1,439	34.5	991	42.1	5,123	17.5	196.2
		1956	2,321	7,351	9,672	3.4	48,374	2,790	1,373	33.7	951	40.5	5,218	17.4	215.9
	Gulf, Mobile & Ohio	1957	5,110	10,982	16,092	6.9	79,268	4,043	1,905	32.6	1,115	50.0	6,467	19.6	109.7
		1956	4,806	9,383	14,189	5.3	75,824	3,921	1,893	32.5	1,127	49.6	6,281	19.4	107.3
	Illinois Central	1957	25,220	27,937	53,157	2.2	54,647	3,166	1,435	37.5	1,067	47.0	8,511	17.5	112.9
		1956	24,235	28,509	52,744	2.2	51,568	3,156	1,469	33.9	1,120	52.6	8,888	16.6	90.8
	Louisville & Nashville	1957	27,457	14,581	42,038	4.8	49,862	2,835	1,443	38.8	994	41.7	8,903	17.6	223.2
		1956	28,914	15,340	44,254	2.7	48,634	2,823	1,443	38.6	1,011	42.0	9,283	17.3	155.9
	Nash., Chatt. & St. Louis	1957	2,927	4,671	7,598	5.3	45,381	2,195	1,036	31.9	740	33.8	5,389	20.7	143.9
		1956	3,374	3,583	6,957	4.7	44,352	2,214	1,044	31.9	947	43.0	6,101	20.1	131.9
	Seaboard Air Line	1957	11,940	19,938	31,878	1.9	55,599	2,997	1,369	33.8	1,006	47.7	7,631	18.8	171.2
		1956	11,947	19,337	31,284	2.6	54,447	3,019	1,383	33.4	1,042	49.6	7,837	18.4	182.0
	Southern	1957	17,170	26,097	43,267	3.9	54,644	3,283	1,514	30.6	1,005	49.3	6,871	16.7	161.0
		1956	15,142	26,400	41,542	2.8	54,566	3,227	1,501	30.7	1,119	54.0	7,348	17.0	122.9
Northwestern Region	Chicago & North Western (a)	1957	19,134	37,103	56,237	4.6	48,170	2,833	1,153	30.0	603	32.6	3,434	17.3	173.7
		1956	16,332	39,309	55,641	5.2	48,857	2,842	1,277	30.3	657	31.8	3,879	17.4	123.6
	Chicago Great Western	1957	1,575	4,449	6,024	3.1	78,296	4,206	1,937	32.6	1,389	65.2	6,051	18.6	146.9
		1956	1,177	3,764	4,941	4.0	73,726	3,858	1,796	30.2	1,524	70.0	5,571	19.1	140.6
	Chic., Milw., St. P. & Pac.	1957	28,435	30,722	59,157	6.6	58,647	3,031	1,357	30.9	679	33.6	3,813	19.4	110.0
		1956	28,800	33,042	61,842	6.3	56,492	2,973	1,366	31.3	702	33.5	4,092	19.0	120.0
	Chic., St. P., Minn. & Omaha	1957	12,685	970	13,655	2.9	23,775	1,579	680	36.9	55	3.1	1,321	15.7	19.3
		1956	13,736	935	14,671	2.2	20,762	1,467	665	34.6	47	2.5	1,196	15.1	19.9
	Duluth, Missabe & Iron Range	1957	20,738	22,479	43,217	3.0	50,998	2,475	1,149	32.6	997	45.0	4,996	20.8	123.3
		1956	21,262	21,712	42,974	3.0	51,486	2,572	1,198	32.3	1,040	46.7	5,400	20.2	107.1
	Great Northern	1957	5,766	9,563	15,329	5.2	46,304	2,261	1,066	30.9	943	46.7	3,331	20.6	157.4
		1956	5,217	9,867	15,084	6.0	48,385	2,451	1,121	31.6	1,001	48.9	3,585	19.9	159.9
	Minneap., St. P. & S. Ste. M.	1957	18,468	17,202	35,670	3.7	55,656	2,795	1,289	31.1	924	43.0	5,021	20.0	90.7
		1956	18,915	20,514	39,429	7.4	54,125	2,768	1,252	30.5	927	44.8	5,467	19.6	92.3
	Northern Pacific	1957	1,674	5,007	6,681	.9	37,797	2,651	1,190	29.6	877	42.3	5,907	14.3	97.2
		1956	1,245	3,994	5,239	3.3	39,808	2,878	1,391	32.3	1,178	49.3	6,982	14.0	87.0
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1957	57,018	36,179	93,197	4.6	78,385	3,237	1,240	26.6	1,041	61.7	7,411	24.2	134.8
		1956	49,191	33,785	82,976	3.3	74,133	3,116	1,217	26.6	1,170	67.6	7,339	23.8	140.2
	Chic., Burl. & Quincy	1957	21,435	22,282	43,717	2.9	66,501	3,040	1,328	29.2	1,041	53.6	5,072	21.9	162.6
		1956	16,333	22,701	39,034	4.4	64,422	3,016	1,347	29.4	1,160	57.3	5,468	21.4	135.7
	Chic., Rock I. & Pac.	1957	11,866	22,305	34,171	5.8	60,672	2,886	1,190	29.4	1,117	61.2	4,966	21.1	190.0
		1956	11,893	19,766	31,659	4.9	58,746	2,884	1,193	29.1	1,122	60.4	4,634	20.4	176.3
	Denver & R. G. Wn.	1957	6,768	6,248	13,016	3.4	65,298	3,433	1,691	34.3	1,242	51.1	7,589	19.1	142.9
		1956	7,545	6,318	13,863	3.5	62,670	3,317	1,597	33.7	1,109	47.7	7,225	18.9	117.0
	Southern Pacific	1957	28,768	38,245	67,013	1.9	65,886	3,279	1,365	27.9	1,276	69.9	10,457	20.4	95.5
		1956	29,991	40,134	70,125	2.0	60,955	3,149	1,332	28.2	1,252	66.8	10,906	19.6	106.7
	Union Pacific	1957	30,599	31,749	62,348	1.8	83,038	3,260	1,422	29.5	1,537	78.4	9,887	25.7	132.9
		1956	27,839	33,945	61,784	1.9	78,048	3,118	1,361	28.9	1,594	80.8	10,038	25.2	130.3
	Western Pacific	1957	2,364	3,332	5,696	1.8	71,015	3,012	1,383	30.0	1,786	83.1	8,336	23.8	188.3
		1956	2,150	4,155	6,305	1.1	75,277	3,054	1,394	30.6	1,564	73.6	9,089	24.9	200.5
Southwestern Region	Kansas City Southern	1957	2,011	5,305	7,316	4.4	91,041	4,343	2,007	34.6	1,439	63.7	12,011	21.1	231.2
		1956	1,161	6,249	7,410	1.4	87,766	4,142	1,890	32.6	1,372	62.2	11,286	21.3	218.8
	Louisiana & Arkansas	1957	1,653	3,538	5,191	6.1	71,686	3,645	1,742	38.0	981	40.5	6,863	19.7	189.5
		1956	1,359	4,054	5,413	4.0	68,702	3,424	1,590	35.2	946	41.2	6,849	20.1	219.4
	Mo.-Kans.-Texas Lines	1957	4,471	7,136	11,607	6.6	63,549	3,100	1,066	23.1	982	67.1	3,589	20.5	147.1
		1956	4,082	7,821	11,903	6.9	62,213	2,965	1,296	28.4	1,225	65.0	4,530	21.1	139.3
	Missouri Pacific	1957	19,281	24,911	44,192	4.0	69,375	3,270	1,446	30.7	1,286	66.1	6,007	21.3	115.0
		1956	21,231	29,322	50,553	3.5	68,205	3,112	1,381	30.9	1,151	56.8	6,018	22.1	121.6
	Texas & Pacific	1957	3,081	7,164	10,245	2.5	80,209	3,727	1,392	27.8	1,445	85.0	7,765	21.6	243.0
		1956	2,698	6,736	9,434	2.2	77,273	3,505	1,355	28.2	1,542	87.6	7,992	22.1	184.8
	St. Louis-San Francisco	1957	12,186	11,664	23,850	2.7	57,400	2,678	1,235	30.9	1,024	48.8	5,463	21.5	203.6
		1956	12,997	11,989	24,986	2.9	56,411	2,763	1,258	30.7	1,022	50.0	5,647	20.5	209.9
	St. Louis Southw. Lines	1957	2,178	4,666	6,844	1.0	69,569	3,121	1,395	28.6	2,377	122.6	10,330	22.3	232.0
		1956	1,884	5,050	6,934	1.2	68,040	3,145	1,406	27.8	2,337	117.6	10,388	21.7	216.5
	Texas & New Orleans	1957	5,509	16,252	21,761	1.2	65,645	3,113	1,359	30.7	1,388	71.2	6,874	21.2	171.0
		1956	5,178	16,747	21,925	1.4	60,579	2,949	1,303	30.0	1,355	67.8	6,991	20.7	183.2

a Includes operations of Chicago, St. Paul, Minneapolis and Omaha Railway Co. under lease effective January 1, 1957.



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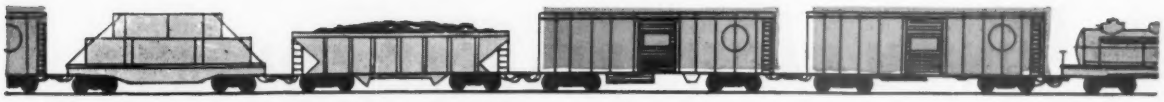
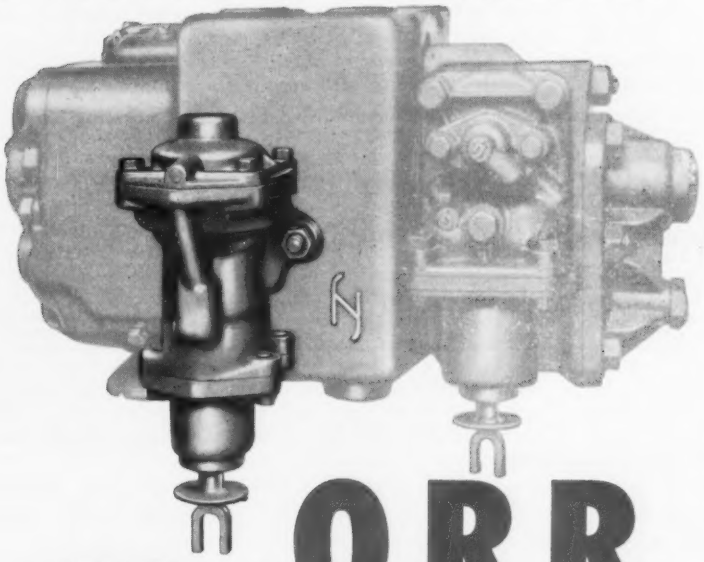


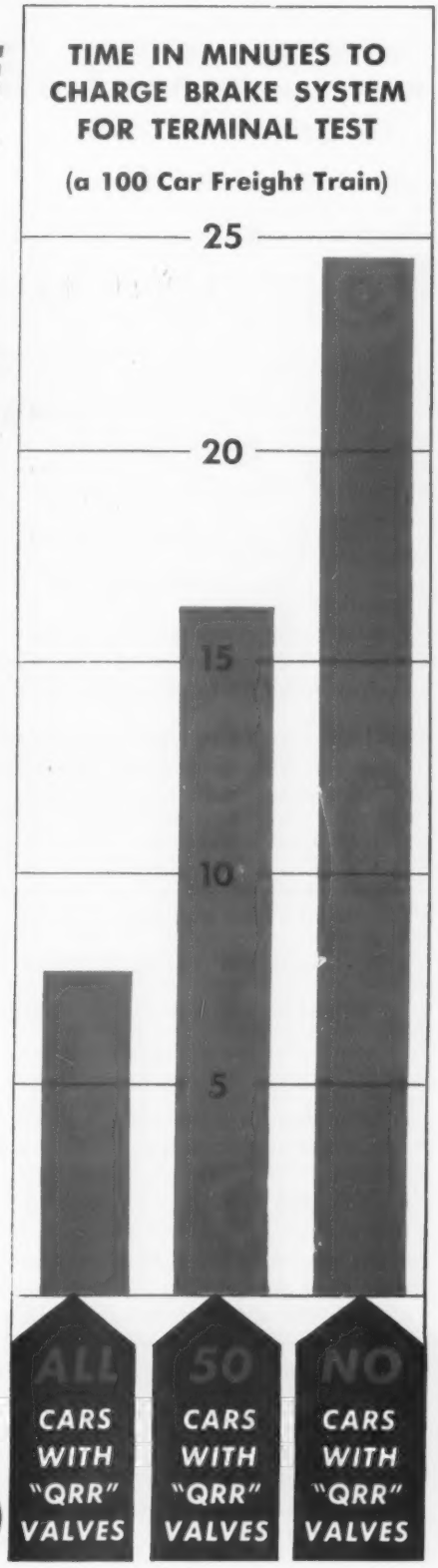
SPEED UP DEPARTURE of Your FAST FREIGHTS...



WITH... QRR BRAKE CYLINDER RELEASE VALVES

Save time required for Air Brake tests! With the "QRR" Brake Cylinder Release Valve, air stored in the "AB" Reservoirs is retained when cars are bled for switching. As shown in the chart at the right, up to 70% of the Charging Time required for a 100 Car Train is SAVED when all cars are equipped with "QRR" Brake Cylinder Release Valves. Proportionate Savings in Time are effected with only a portion of the train so equipped.

"QRR" is the proven design authorized by the A.A.R. for unlimited application.



Write for circular 99.

RAILROADS TO PROGRESS
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THE NEW YORK AIR BRAKE COMPANY

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UNION PACIFIC RAILROAD COMPANY

Sixtieth Annual Report—Year Ended December 31, 1956

REPORT OF THE BOARD OF DIRECTORS

New York, N. Y., April 25, 1957.

To Stockholders of Union Pacific Railroad Company:

The Board of Directors submits the following report for the Union Pacific Railroad Company, including its Leased Lines,* for the year ended December 31, 1956.

CONDENSED STATEMENT OF INCOME

	1956	1955	Increase (+) Decrease (—)
Operating revenues	$514,316,828	$509,362,476	+ $4,954,352
Operating expenses	$376,254,724	$370,526,330	+ $5,728,394
Taxes (including taxes on income from oil and gas operations and other non-transportation sources)	73,538,270	72,517,848	+ 1,020,422
Equipment and joint facility rents—net charge	22,386,672	22,578,806	— 192,134
Net income from transportation operations	$ 42,137,162	$ 43,739,492	— $1,602,330
Net income from oil and gas operations (excluding income taxes)	26,603,162	28,075,475	— 1,472,313
All other income	15,380,910	13,207,325	+ 2,173,585
Total income	$ 84,121,234	$ 85,022,292	— $ 901,058
Interest on funded debt	$ 4,670,071	$ 4,955,347	— $ 285,276
Miscellaneous rents and charges	882,318	839,689	+ 42,629
Total fixed and other charges	$ 5,552,389	$ 5,795,036	— $ 242,647
Net income from all sources	$ 78,568,845	$ 79,227,256	— $ 658,411

Net income per share of Union Pacific Railroad Company common stock, after preferred dividends, amounted to $3.36. This is three cents less than net income per share in 1955 stated on the basis of shares outstanding December 31, 1956. Total dividends declared on common stock during 1956 ($1.60 per share on shares outstanding at close of the year) represented 47.7 per cent of net income after preferred dividends.

The large expenditures that have been made for improvements to the Company's properties have been necessary both to meet the expansion of traffic arising from the growth of population and industry in the West, and to produce economies required to keep pace with rising wage scales and material prices. To a very large extent the funds realized from transportation operations have been retained by the Company to finance these improvements, and only the fact that the Union Pacific enjoys substantial income from sources other than transportation has made possible the distribution of dividends at the levels of recent years.

* Leased Lines are: Oregon Short Line Railroad Company, Oregon-Washington Railroad & Navigation Company, Los Angeles & Salt Lake Railroad Company, and The St. Joseph and Grand Island Railway Company. Figures in the Income Account and other tables are stated on a consolidated basis, excluding offsetting accounts between companies.

(*Advertisement*)

OPERATING REVENUES

The increase in **Freight revenue** was due to an increase of 1.5 per cent in average revenue per ton-mile. Although tons of revenue freight handled were somewhat greater than in 1955, the average distance hauled was less and as a consequence the ton-miles declined slightly. The higher revenue per ton-mile resulted from the increase in freight rates authorized by the Interstate Commerce Commission, effective March 7, 1956, to compensate the railroads for higher wages and material prices. This was a general increase of 6 per cent, but with exceptions on many commodities, such as lumber, agricultural products, coal, etc., and as a result of these "hold-downs" the over-all increase on Union Pacific traffic amounted to much less than 6 per cent. Another increase was authorized by the Commission, effective December 28, 1956, with a maximum of 5 per cent for Western railroads and with "hold-downs" similar to those in the previous increase. In an effort to improve the rate of return on railroad investment to a basis more nearly comparable with that of other important industries, the Western railroads have made application for an additional 17 per cent increase in freight rates.

As indicated above, if there had not been an increase in rates in 1956, freight revenue would have decreased, due to a reduction in the movement of certain kinds of long-haul traffic. The most important commodities in this category were *automobiles and parts*, of which shipments were sharply reduced compared with 1955 when output and sales exceeded all previous records, and *lumber*, which suffered a severe decline in shipments due to unfavorable market conditions and reduced production, and also because of Interstate Commerce Commission Service Order No. 910 (in effect during latter half of the year) prohibiting intentional delays to freight shipments while in transit, ordinarily desired by lumber shippers for marketing reasons. The purpose of the order was to improve the utilization of freight cars, but so far as the Union Pacific was concerned, the practical effect was substantial diversion of lumber traffic to other lines having longer and more round-about routes to markets.

Some commodities moved in greater volume, the most outstanding of which were *wheat*, because of increased shipments between Government storage points and to Pacific Northwest and Gulf ports for export; *iron and steel products*, *bituminous coal*, and *iron ore*, chiefly due to greater output by steel plants, despite the 5-week strike of steel workers during the summer; *plywood*, resulting from expanded production with increased use in residential and industrial construction; and *canned and packaged food products*, for which there was improved demand.

The decrease in **Passenger revenue** was due to continuation of the decline in rail travel by the general public which started several years ago, and to fewer movements of military personnel.

The decline in **Express revenue** was occasioned by a decrease in less-than-carload shipments, principally to Midwestern points which were affected by less favorable farm conditions.

The decrease in **Other revenue** was principally in receipts from dining and buffet cars, due to the decline in passenger travel, and from boarding outfits operated for employees, because of a lesser number of outfits in service; offset in part by increases in demurrage, particularly on shipments held for export in the Pacific Northwest, and in switching revenue due to increased rates.

OPERATING EXPENSES

The increase in **Operating expenses** was principally due to increases in wage rates and additional "fringe" benefits granted to employes effective late in 1955 and 1956, higher prices for material and supplies used, increased depreciation charges, and greater payments to other railroads for maintaining facilities jointly used by the Union Pacific; offset in part because of reductions in freight and passenger-train miles operated, more extensive use of diesel and gas-turbine locomotives, lower charges to operating expenses in connection with retirements of nondepreciable property and improvements to freight cars, less need for removal of snow and ice, and increased receipts from sales of scrap material (credited to operating expenses).

Quantities of rails, ties, and ballast used in main track renewals were as follows:

	1956	Decrease under 1955
New rails (track miles)	224.26	13.47
Second-hand rails (track miles)	90.66	4.29
Total rails (track miles)	314.92	17.76
Ties (number)	812,622	19,946
Ballast (cubic yards)	444,424	10,399

The principal increases in wage rates and other employe benefits effective in 1956 were an increase in wage rates of 10 cents per hour, together with an allowance of 2½ cents per hour to cover medical and hospitalization insurance for dependents, granted to nonoperating employes (such as shop, maintenance, and clerical employes) commencing November 1st, and an equivalent increase to firemen and hostlers. Operating expenses were also charged with estimated additional wages payable to other operating employes (such as conductors, engineers, brakemen, and switchmen), assuming the grant to them of similar wage increases retroactively.

The 1956 wage agreements also provide for further increases in wage rates of 7 cents per hour effective on November 1, 1957, and again on November 1, 1958, and semi-annual cost-of-living wage adjustments of one cent per hour for each change of one half point in the consumers' price index of the U. S. Bureau of Labor Statistics (downward adjustments being made only to the extent of previous upward cost-of-living adjustments). The agreements further provide that there shall be no additional requests by the employe organizations concerned, for any wage rate increases to take effect before November 1, 1959.

Effective March 1, 1956 (as mentioned in the 1955 report) the Company commenced paying the entire cost of the existing plan covering medical and hospitalization expenses of nonoperating employes (beginning February 1, 1955, the Company paid one half of such cost).

TAXES

The decrease in **Federal income taxes** was due to an adjustment in 1956 of overaccruals in 1955. In determining taxes in recent years, taxable income has been reduced by substantial amounts representing excess of (a) deductions for amortization, on a 5-year basis, of portions of the cost of equipment and other improvements certified by the Office of Defense Mobilization to be necessary in the interest of national defense, over (b) annual charges against income, under Interstate Commerce Commission regulations, for depreciation based on estimated lives of such improvements. Approximate amounts involved for 1956 compared with 1955 were:

(Advertisement)

	1956	Decrease under 1955
Amortization deductions	$27,836,710	$823,078
Excess of amortization over depreciation	21,396,565	1,537,549
Reduction in income taxes	11,126,214	799,525
Betterment in net income per share of common stock outstanding December 31, 1956	$.50	$.04

The reduction in income taxes is more of a tax deferment than a true tax saving, because in future years, after the cost of the improvements has been amortized, income taxes will be greater than if the accelerated amortization had not been allowable. The decrease in amortization deductions in 1956 resulted from completion of the 5-year amortization periods for property acquired in 1950 and 1951, partially offset by an increase in deductions occasioned by acquisitions in recent years. The granting of certificates has been discontinued for amortization of railroad property except property for which firm orders had been placed, or construction authorized, by a railroad on or before Decmber 31, 1955.

The increase in **Federal unemployment insurance tax** resulted chiefly from tripling the tax rate (applied to the first $350 of each employe's monthly wages) from ½ per cent in 1955 to 1½ per cent in 1956. Employes bear no portion of this tax.

State and county taxes decreased due to reduced ad valorem and other property taxes because of lower assessments in some States, partly offset by increased State income and franchise taxes.

Total taxes for 1956 were equivalent to 14.3 per cent of total operating revenues and to $1,553.21 per employe. They were also equivalent to $3.31 per share of common stock outstanding December 31, 1956, or only 5 cents less than the Common Stockholders' equity ($3.36 per share) in net earnings.

OIL AND GAS OPERATIONS

	1956	1955	Decrease	Per Cent
Receipts from sale of oil, gas, and other products	$42,678,455	$44,929,079	$2,250,624	5.0
Production expenses (including depreciation)	$8,155,183	$8,326,066	$170,883	2.1
Taxes (other than income taxes)*	3,170,973	3,281,629	110,656	3.4
Intangible drilling and development costs†	4,749,137	5,245,909	496,772	9.5
Total charges against receipts	$16,075,293	$16,853,604	$778,311	4.6
Net income from oil and gas operations	$26,603,162	$28,075,475	$1,472,313	5.2
Drilling and development costs not charged against receipts	$1,883,587	$2,218,111	$334,524	15.1

*Federal taxes on income from oil and gas operations, of approximately $7,968,500 in 1956 and $8,372,100 in 1955, are included in "Taxes" under "Transportation Operations."

†Represents costs such as labor, fuel, repairs and hauling in connection with drilling, geological work, clearing ground, building roads, and certain materials with no salvage value.

The decrease in receipts was due to reduced oil production in Wilmington field, counterbalanced to some extent by an increase in the average price of oil sold and greater production in other areas. The decrease in production expenses was due to less redrilling and major remedial measures in Wilmington field, offset in part by more extensive well stimulation measures in Rangely field and an increased number of producing wells in other areas. The decrease in intangible expenditures was due to less drilling activity in Wilmington field, with a net increase in such expenditures in other areas.

(Advertisement)

Vol. 1 of brake study course

ABC's of AIR BRAKES

with Dictionary of Air Brake Terms

by C. M. DRENNAN

A teacher of air brakes to railroad men since 1908; retired supervisor of training, Westinghouse Air Brake Co.

This complete introduction to the study of air brakes contains 70 of the famous "chalk talk" diagrams which the author has used successfully for years. Its three sections include: Section 1—friction and braking ratio; freight and passenger train brake control. Section 2—description, function and operation of pistons, valves, electric controls and other components. Section 3—air brake dictionary covering words, terms and phrases, many of which have specific air brake meanings. Following each chapter is a quiz to test the student's absorption of the lesson. A practical book for practical men. 243 pages; approximately 8 by 11 inches; cloth bound.

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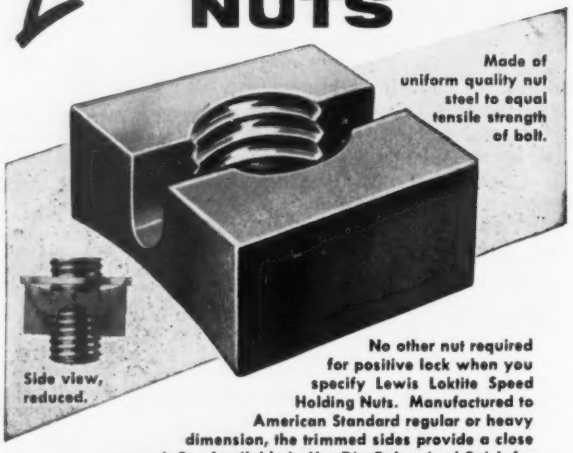

No other nut required for positive lock when you specify Lewis Loktite Speed Holding Nuts. Manufactured to American Standard regular or heavy dimension, the trimmed sides provide a close wrench fit. Available in Hot-Dip Galvanized finish for Double-Life, greater economy, in black for low original cost. Call, wire or write for samples, prices.

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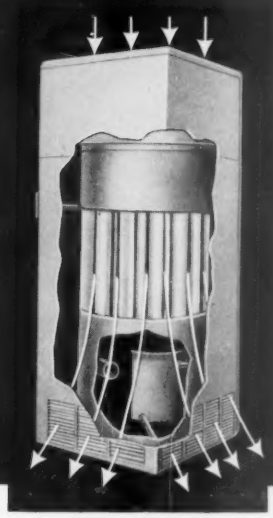
BLANKET THE FLOOR WITH WARMTH WHERE AND WHEN YOU NEED IT



VAPOR'S SELF-CONTAINED WAIKIKI

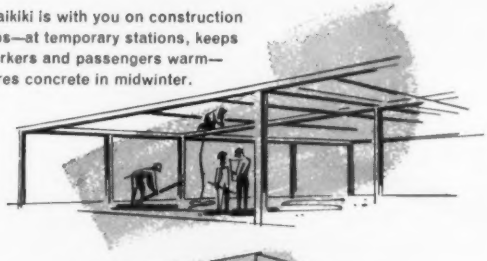
GIVES A FLOOD OF WARMTH AND COMFORT AT THE TOUCH OF A BUTTON IN ANY LOCATION—PERMANENT OR TEMPORARY.

Installed singly or in multiples to heat small or large areas economically and effectively.

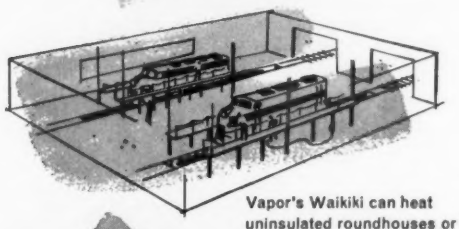
With or without ducts—vertical or horizontal—hung from a ceiling or set in an unused corner—Waikikis are available for the fuels you now use: standard No. 2 diesel fuel—kerosene—fuel oil No. 1—natural, manufactured, LP gas.

200,000 BTU/hour—circulates 2800 CFM of air—up to 83 per cent thermal efficiency. There's an automatic cut-out to prevent overheating and an easily connected fresh air intake so Waikiki can go wherever you need both heat and ventilation. Thermostatic control supplied when desired.

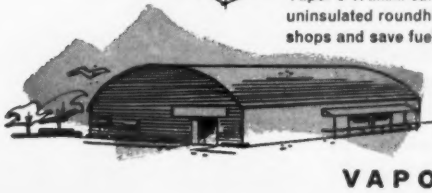
Wherever you need warmth—you need Waikiki. Counter-flow circulation assures warm floor. *Ask for Bulletin 445.*



Waikiki is with you on construction jobs—at temporary stations, keeps workers and passengers warm—cures concrete in midwinter.



Vapor's Waikiki can heat uninsulated roundhouses or diesel shops and save fuel for you.



Waikiki saves space in storehouses—gives warmth and ventilation without overheating.

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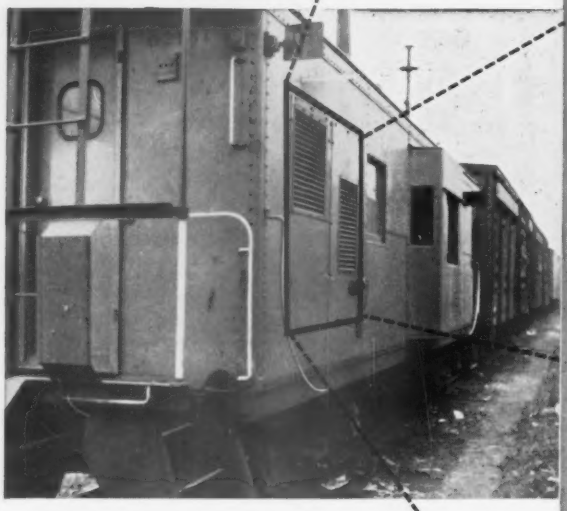

HERE'S high availability, high-capacity power for any caboose now in service or being built.

Specially designed for rugged over-the-road service, the Model 45 caboose set features:

Reliability. Ample power constantly available for train radio, electric stove, refrigerator, as well as all interior and exterior lighting—even when standing in the yard.

Ease of Operation. Push-button starting and compact, easy-to-read control panel.

Shock Mounting. Oil-resistant neoprene mounting protects unit from road shocks and isolates crew from engine vibration.

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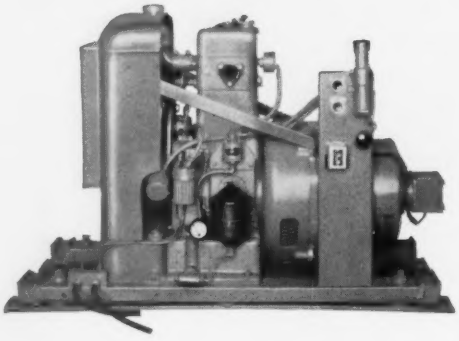
3 kw

caboose generating set



F-M Model 45 AC generating set powered by rugged, full-diesel engine—single-cylinder, four-cycle, 1800 rpm.

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Everything about Chicago, Rock Island & Pacific Railroad's new "Jet Rocket" suggests tomorrow—low, glistening beauty, smooth, floating ride, vast picture windows, super speeds. All of these innovations signal a completely new, more comfortable, more efficient era of train travel.

This Talgo-type train of tomorrow rides on wheels that have proved their dependability through years of service—USS Multiple-Wear *Wrought* Steel Wheels. These wheels are well prepared for the rigorous demands of the future because of the manufacturing process by which they are made . . . the *Wrought* process.

American Car and Foundry's major objective in building the "Jet Rocket" was to provide the utmost in speed, safety and comfort at the least possible cost. USS Multiple-Wear *Wrought* Steel Wheels fit into this pattern exactly. They can take prolonged wear, severe braking and high-speed impacts because they are extremely tough and ductile. Thus, they are reliable, thanks to the forging process by which they are made.

In addition to all passenger applications, USS Multiple-Wear *Wrought* Steel Wheels are highly practical for freight service—a fact proved by the many far-sighted railroad men who are already reaping the benefits of greater dependability and economy offered by these tough, long-wearing wheels.

USS Wrought Steel Wheels are produced at two strategically located plants: The McKees Rocks (Pittsburgh), Pennsylvania plant, serving the East and Southeast; and the Gary, Indiana plant, supplying the Western and Southwestern lines.

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USS WROUGHT STEEL WHEELS

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UNITED STATES STEEL

the Original snubber spring

Holland Volute Snubber Springs are NOT miniature Draft Gears. They are effective Load-Carrying SPRINGS as well as highly efficient FRICTION SNUBBING DEVICES for Freight Cars.

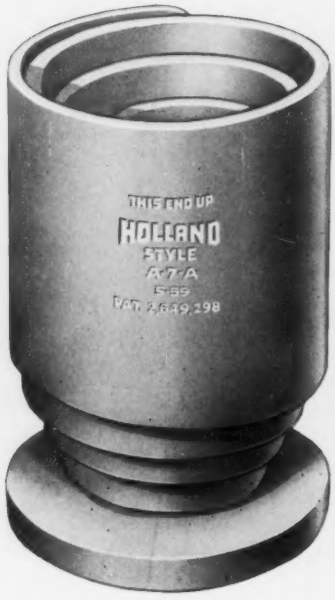
Either 1⅜" or 2½" Spring Travel

They are easily applied by simply removing one standard Bolster Spring from each spring nest, and replacing it with a Holland Volute Snubber Spring.

2½" Travel

HOLLAND STYLE A-7-A VOLUTE SNUBBER SPRING IN 40-TON GROUP

Write for New Bulletin #15A describing in detail the Unit Snubber.



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An ORTON Pile Driver *built to specification* hoists, rotates, travels and operates the pile-driver leads, powered by a GM diesel engine with fluid torque converter. Self propelled at 24 mph on level track. Easily negotiates 5% grade; pulls 10 loaded cars weighing 70 tons on level—or 1 such car on 4% grade. Hydraulic pumps and auger attachments. Ask for catalog No. 90.

All ORTON cranes operate on STRAIGHT DIESEL POWER. This enables ORTON to give a 10-year guarantee on travel gears without limitation due to accident, derailment, misuse or other cause. Idles at 600 rpm instead of 1800; reduces engine wear immensely; reduces fuel consumption to about ¾ of diesel electric operation. No danger of setting fire to combustible material on road beds. Moisture—even flood waters, won't immobilize an ORTON straight diesel machine.

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An ORTON *Combination* PILE DRIVER, 160-ton DIESEL WRECKER and BRIDGE DERRICK *built to specification.* Pendent pile driver leads permit batter in both directions. Con be equipped for use with air or diesel-operated hammer. Above: in use as a pile driver; large photo at left: same machine as a wrecker. Ask for catalog No. 89.

AMERICAN BRIDGE builds new Cleveland Bridge for B&O

This new B & O Railroad bridge, recently installed over the Cuyahoga River, in Cleveland, replaces the original bridge built in 1911. Designed by Hardesty & Hanover, Consulting Engineers, New York, N. Y., the bridge consists of one single-track, single-leaf heel trunnion thru-truss bascule span, 255 feet long; one single-track thru-truss tower span for the West approach, 55 feet long; and one single-track deck plate girder span for the East approach, 63 feet long.

All steelwork for this structure was fabricated and erected by the American Bridge Division. 1,796 tons of structural steel, 166 tons of castings and 13 tons of reinforcing steel were used.

Under the terms of the contract, the responsibility of the American Bridge Division included the operator's house, machinery house, operating machinery, counterweight boxes and trusses, counterweight concrete, electrical equipment for bascule span operation, engine-generator for emergency span operation and lighting, main trunnions and bearings, counterweight trunnions and bearings, platforms, walkways and stairs, installation only of railway deck, temporary timber stringer span at east abutment, and removal of existing bridge superstructure. All in all, a large and important job, and another proof of the ability of the American Bridge Division to handle successfully and efficiently all types of bridge installation.

If you would like to know more about the bridge-building facilities of the American Bridge Division, just get in touch with our nearest office. We'll be glad to discuss your bridge requirements with you.

AMERICAN BRIDGE DIVISION, UNITED STATES STEEL CORPORATION, GENERAL OFFICES: 525 WILLIAM PENN PLACE, PITTSBURGH, PA.

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☐ **No. 3014 TAN ANTI-SKID**
A mastic developed to fill depressions and provide a tough, anti-skid surface on Nailable Steel Floors. Smooth, easily cleaned surface will withstand impact, is acceptable for all types of lading. Applied as received with notched trowel or screed.

☐ **No. 3011 TAN GROOVE FILLER**
No. 3012 BLACK GROOVE FILLER
3011 (non-asphaltic) and 3012 (asphaltic) sealers for filling nailing grooves in all types of Nailable Steel Floors. Withstands impact, remains flexible without cracking or chipping at all operating temperatures.

☐ **No. 3009 STEEL FLOOR COVERING**
Non-skid, abrasion-resistant coating provides tough, durable covering for steel floors. Easily applied by brushing or spraying, does not require thinning. Steel Floor Covering dries tack free in six hours at 1/32" thickness. Covering attains full hardness in approximately 48 hours.

☐ **RAILWAY INSULMAT**
A water emulsion coating that prevents condensation drip, protects metal against rust and corrosion, seals seams and joints, deadens sound. Developed for steel box car ceilings, passenger car interiors, air conditioning ducts. Adheres to any clean surface. Coverage—six sq. ft. per gallon at 1/4" thickness.

☐ **SPECIFICATION CAR CEMENTS**
Fibrous asphalt protective coatings, made to individual railroad's specifications for composition, drying oil content, consistency. For use on interior or exterior surfaces. Provides excellent protection against corrosion. Available in black, red or aluminum. Coverage: 50 sq. ft. per gallon at 1/32" thickness.

☐ **RED CAR CEMENT**
Tough, durable protective coating for freight car exteriors. Heavy fluid consistency, applied in one coat, eliminates costly painting. Greater film thickness than ordinary paint, provides better protection against rust and corrosion. Made to individual railroad's specifications for freight car red. Coverage—50 sq. ft. per gallon at 1/32" thickness.

☐ **ALL-WEATHER INSULMAT**
A solvent-reduced coating which may be applied outside the year around. Developed for steel box car ceilings, passenger car walls and ends or any metal surface. Prevents condensation drip, protects against rust and corrosion, seals seams and joints, deadens sound. Coverage—six sq. ft. per gallon at 1/4" thickness.

☐ **No. 3021 TAN CEILING INSULATION FOR BOX CARS**
NEW...and *exclusive* with Mortell, No. 3021 is an improved, non-asphaltic cutback type plastic coating developed specifically for preventing condensation drip on galvanized steel box car ceilings. *Impervious to pentachlorophenol solvent vapors.* Eliminates necessity of sealer coat. Excellent adhesion without preliminary acid treatment. Can be applied outside in any weather condition. Coverage 6 sq. ft. at 1/4" thickness.

☐ **ARMORTEX PLASTIC CAR LINER**
Tough, permanent Armortex is available in two grades: 1) *Spray-Brush Grade* for sealing smaller cracks, for coating car lining, ends and floor 2) *Caulking Grade* for sealing larger cracks and gouges in linings, doorposts. Excellent adhesion to wood and primed steel. Easily applied at shop, repair track or siding. Coverage—*Spray-Brush Grade* covers 50 sq. ft. per gallon at 1/32" application.

☐ **MORTEX No. 4**
Protective coating in plastic form that dries to a tough, flexible film with rubber-like appearance. Recommended for underframes and roofs of freight and passenger cars. Also for steel bridges, platforms and runways, to dampproof concrete structures or as a seal over porous insulation. Coverage: 50 sq. ft. per gallon at 1/32" thickness.

☐ **No. 3007 FIRE RESISTANT ASPHALT EMULSION**
Protective coating developed to provide fire protection in addition to resistance against rust and corrosion. Rich, full black finish retains flexibility with age—over wide temperature range. Recommended as protective coating for undersides of baggage and mail cars, for wooden trestles and bridges. Coverage—25 sq. ft. per gallon at 1/16" thickness.

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RAILROAD DIVISION, KANKAKEE, ILLINOIS

J. W. MORTELL COMPANY,
KANKAKEE, ILL.

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Stand-by power to spare...

...where you need it most

an EDISON battery won't let you down

Unexpected delays may stop a freight train . . . but it's at moments like this that communications and other electric services on caboose cars must keep going.

With EDISON batteries as stand-by power, communications equipment will operate at top performance for long periods while generator power is interrupted. The reason is, EDISONS can be safely charged at higher rates, assuring a continuously high charged condition ready for any emergency. Another important advantage is the rugged all-steel construction of EDISON batteries. They're built to withstand the mechanical abuse associated with freight operations.

EDISON batteries are not subject to sudden failure. They are so dependable that, after years of the heaviest duty, they may be shifted to lighter loads, where the utmost reliability is still of paramount importance. No other battery can deliver so much work per dollar of cost.

For information call your local Edison field engineer, or write Edison Storage Battery Division, Thomas A. Edison Industries, West Orange, New Jersey.

Railroads depend on Edison batteries for five important power services —operating power on industrial trucks • stand-by power for communications equipment on caboose cars • stand-by power for air conditioning and lighting on passenger train cars • stand-by power for all types of railway signaling • multiple unit controls.

Edison *NICKEL–IRON –ALKALINE* **Storage Batteries**

. . . a product of Thomas A. Edison Industries of McGRAW EDISON

Financial

Applications

CHESAPEAKE & OHIO.—To assume liability for $9,000,000 of equipment trust certificates, the first installment of a proposed $20,700,000 issue, the whole of which would finance in part the purchase of 55 1,750-hp diesel road-switching locomotive units and 2,000 70-ton hopper cars at an estimated total cost of $26,091,030. The locomotives would be purchased from Electro-Motive Division, General Motors Corporation, at an estimated unit cost of $190,746, and the hopper cars from ACF Industries, Inc., at $7,800 each. The certificates would mature in 15 annual installments, beginning June 1, 1958. They would be sold by competitive bids which would fix the interest rate.

INDIANA HARBOR BELT.—To issue and sell $8,125,000 of first mortgage bonds due June 1, 1982, the proceeds to be used with treasury funds to redeem on July 1 two issues of general mortgage gold bonds, i.e., $3,225,000 of 4s and $4,490,000 of 4½s. The New York Central, the Michigan Central, the Chicago, Milwaukee, St. Paul & Pacific and the Chicago & North Western are also parties to the application, seeking authority to assume liability as guarantors. Interest rate on the new bonds would be determined by competitive bids.

LITCHFIELD & MADISON.—To issue to the Mercantile Trust Company of St. Louis a promissory note evidencing a loan of $900,000. The proceeds would be applied to the cost (total $965,000) of having 267 gondola cars rebuilt in Illinois Central shops. The loan would bear interest at 4.4% and mature in 20 semiannual installments of $45,000 each.

MISSOURI PACIFIC.—To assume liability for $4,200,000 of equipment trust certificates to finance in part the building of 700 freight cars in MP shops at an estimated total cost of $5,308,500. Included would be 500 box cars at an estimated unit cost of $7,545; 100 box cars at $8,260; and 100 gondola cars at $7,100. The certificates would mature in 15 annual installments beginning June 1, 1958. They would be sold by competitive bids which would fix the interest rate.

PENNSYLVANIA.—To assume liability for $5,490,000 of equipment trust certificates, the first installment of a proposed $11,010,000 issue, the whole of which would finance in part the acquisition of equipment expected to cost a total of $13,790,000. Included would be 35 1,750-hp diesel-electric locomotives to be acquired from Electro-Motive Division, General Motors Corporation, at an estimated unit cost of $200,000; 700 hopper cars to be built in PRR shops at an estimated unit cost of $8,450; and 100 covered hopper cars to be acquired from Pullman-Standard Car Manufacturing Company at $8,750 each. The certificates would mature in 30 semiannual installments beginning June 1. They would be sold by competitive bids which would fix the interest rate.

Dividends Declared

ATLANTIC COAST LINE.—5% preferred, $2.50, semiannual, payable May 10 to holders of record April 25.

CAMDEN & BURLINGTON COUNTY.—75c, semiannual, payable July 1 to holders of record June 14.

CHESAPEAKE & OHIO.—common, $1, quarterly, payable June 20 to holders of record June 3; 3½% convertible preferred, 87½c, quarterly, payable August 1 to holders of record July 5.

CHICAGO, BURLINGTON & QUINCY.—$2, payable June 21 to holders of record June 5.

DELAWARE.—$1, semiannual, payable July 1 to holders of record June 14.

DELAWARE, LACKAWANNA & WESTERN.—121½ cents, payable June 17 to holders of record May 24.

ELMIRA & WILLIAMSPORT.—7% preferred, $1.65, semiannual, payable July 1 to holders of record June 20.

INTERNATIONAL OF CENTRAL AMERICA.—5% preferred, $1.25, accumulation, payable May 15 to holders of record May 7.

LAKE SUPERIOR & ISHPEMING.—35c, quarterly, payable July 15 to holders of record July 1.

LEHIGH VALLEY.—30c, quarterly, payable May 24 to holders of record May 10.

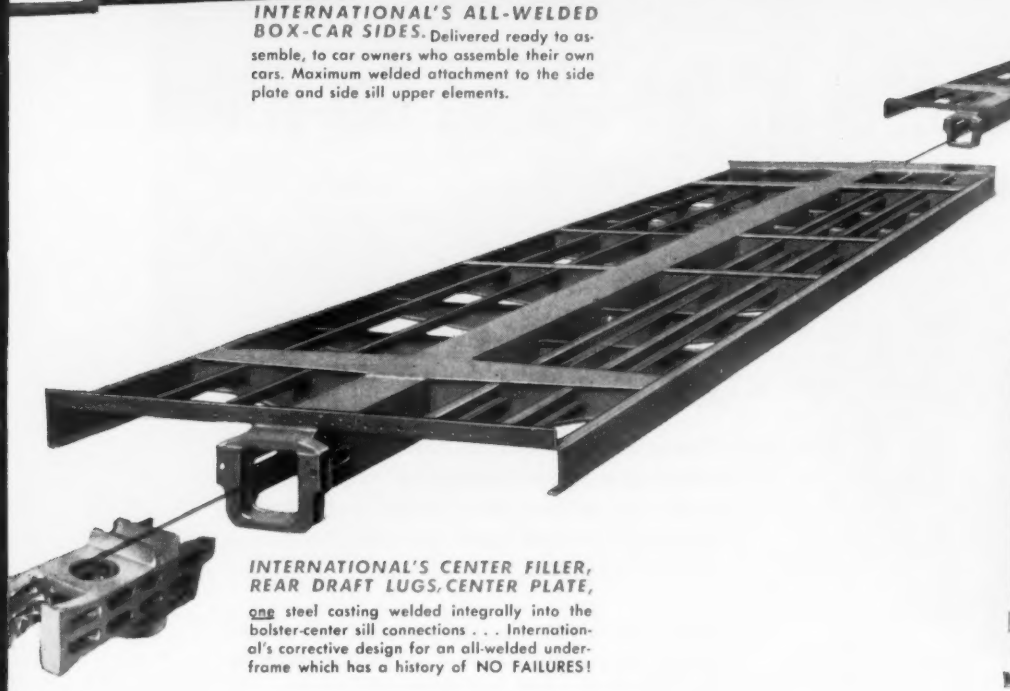
MAINE CENTRAL.—5% preferred, $1.25, accumulation, payable June 1 to holders of record May 25.

MINNEAPOLIS & ST. LOUIS.—35c, quarterly, payable May 31 to holders of record May 15.

(Continued on page 58)

A FREIGHT CAR IS NO STRONGER THAN ITS WEAKEST *COMPONENT*

INTERNATIONAL'S ALL-WELDED BOX-CAR SIDES. Delivered ready to assemble, to car owners who assemble their own cars. Maximum welded attachment to the side plate and side sill upper elements.



INTERNATIONAL'S CENTER FILLER, REAR DRAFT LUGS, CENTER PLATE, one steel casting welded integrally into the bolster-center sill connections . . . International's corrective design for an all-welded underframe which has a history of NO FAILURES!

INTERNATIONAL'S BULK-LADING SIDE DOOR. Requires no inside grain door . . . and has an access door for loading, inspection and sampling. Positive retainment on the car structure.

The ***UTILITY DOOR*** without the grain loading feature has the same inter-locking features and sturdier International construction as the Bulk-lading door.

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RAILWAY DIVISION
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Precision fabricators of correctively designed components

there's the QUALITY side . . .

The heavier flange and improved brackets designed into the chilled car wheel approved by the AAR in 1950 make it an outstanding performer under 40- and 50-ton freight cars.

This wheel is high in safety performance as measured by ICC records throughout the country for all types of freight car service.

look at both sides of the Chilled Car Wheel

. . . and there's the side that spells ECONOMY

The Association chilled car wheel is low in first cost, high in exchange value, reducing the dollar investment required for freight car wheels.

This investment is further reduced by the accessibility of standard Association wheels from 28 plants across the United States and Canada, because this means you can operate with a smaller inventory.

Where the service suggests a second look for the sake of good performance at reduced investment, the chilled car wheel warrants first choice.

in good supply
available locally
short-haul delivery
reduced inventory
low first cost
low exchange cost
increased ton mileage
high safety standards
plant inspection
easier shop handling

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(Formerly Association of Manufacturers of Chilled Car Wheels)
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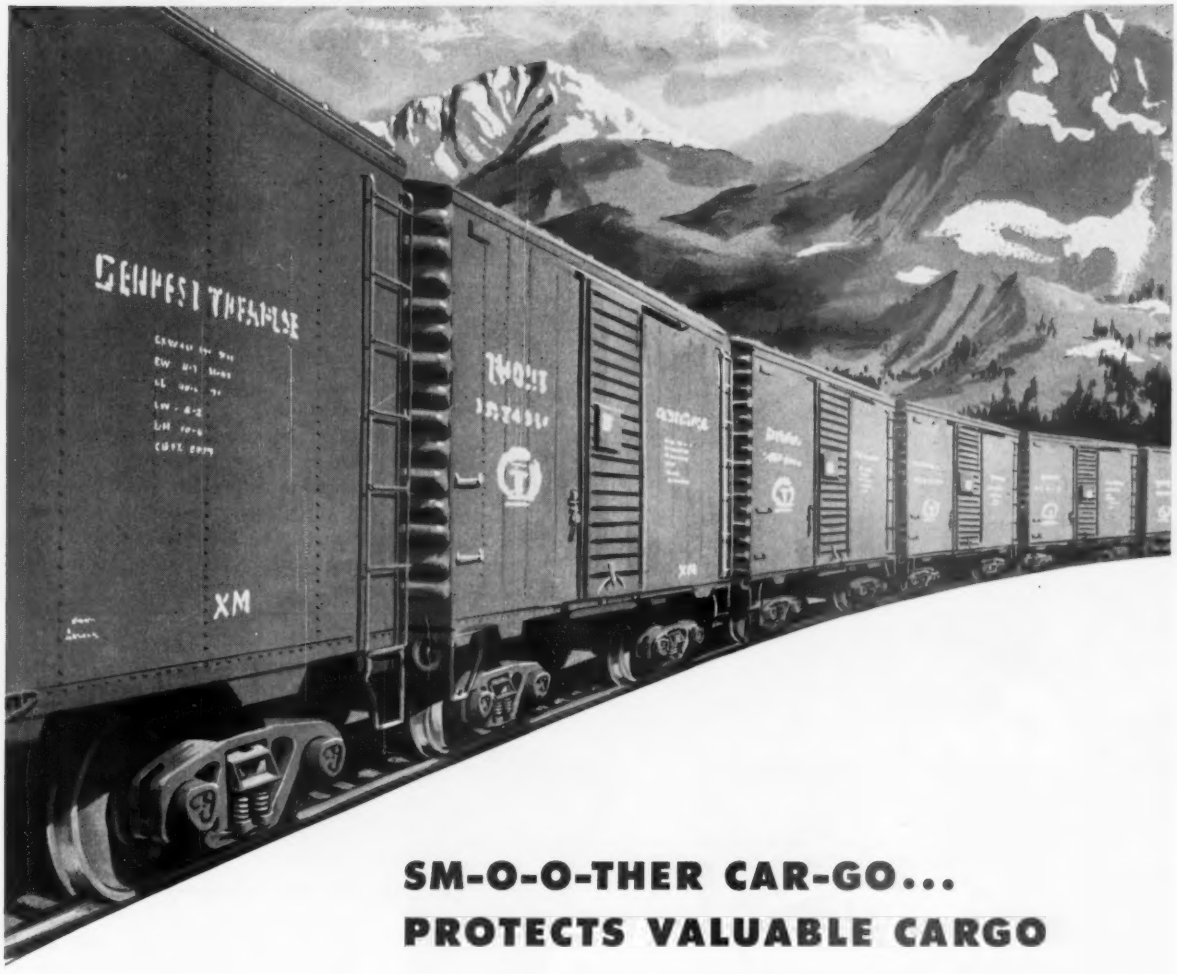

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PROTECTS VALUABLE CARGO

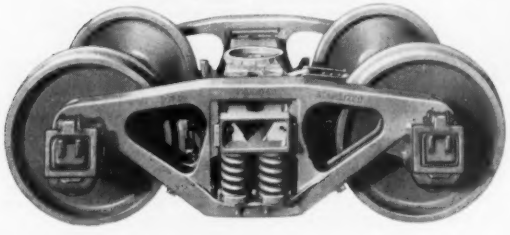
Higher speeds! Tighter schedules! These combine to give equipment and ladings many opportunities to become damaged. Damage claims are a serious problem for any road.

Barber Stabilized Trucks give smoother rides, maximum protection. Destructive forces are self-dampened through the coordinated action of Barber Stabilizer components. Actuating springs, friction shoes and special wear plates . . . arranged in a unique and ever-ready suspension system . . . guard against vertical shocks and bouncing, increase their frictional resistance on the downward stroke.

Over-solid spring blows are eliminated!

Two bargains in one! Barber Stabilized Trucks save your ladings; save your equipment.

Quicker, Easier Servicing, Too . . .



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STABILIZED TRUCKS

Standard Car Truck Company, 332 S. Michigan Ave., Chicago 4, Illinois. *In Canada:* Consolidated Equipment Co., Ltd., Montreal 2.

Translucent structural panels with Underwriter's Label and Factory Mutual Approval to meet restrictive fire codes.

New Corrulux PyroPanl gives all the advantages of Corrulux . . . high strength, shatterproof, excellent light transmission, long life, resistance to corrosion, rot, warpage and cracking . . . with an important plus — FIRE RESISTANCE.

Flame resistance is chemically, permanently locked into PyroPanl. While these panels will burn under a blow torch flame, they extinguish themselves when the source of flame is removed.

PyroPanl is available in industrial colors, flat sheets and many corrugations.

For complete technical data, write us.

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Corrulux®

L·O·F GLASS FIBERS COMPANY,
P. O. BOX 20026, HOUSTON 25, TEXAS

What Car Reporting System?

(Continued from page 33)

placed in the country. A nationwide system could make effective use of the new 'giant brains.'" (Railway Age, May 23, 1955, p. 29)

What could such a system do? Certainly what the individual systems do now—that is increase car loadings as a result of greater shipper satisfaction with faster service and reliable advance reporting of arrival time. And the second large benefit is a reduction in the investment in rolling stock, because of better utilization through better information about locations of empty cars. Also, time spent in yards is reduced because advance reporting enables yardmasters to plan their work better, making more effective use of yard tracks and better usage of yard crews and motive power.

Because shippers have advance information on car arrivals, they can load and unload cars promptly.

Car Report Information Interchange

An Eastern Railroad Presidents' Conference group is working on standardization of car reporting information. It is expected that in the near future they will come up with definite recommendations along the line of interchanging mechanized car reports.

(Continued from page 54)

MOBILE & BIRMINGHAM.—preferred, $2, semiannual, payable July 1 to holders of record June 1.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—$1, quarterly, payable June 3 to holders of record May 8.

NORFOLK & WESTERN.—90c, quarterly, payable June 10 to holders of record May 13.

NORFOLK SOUTHERN.—30c, payable August 15 to holders of record July 31.

NORTHERN CENTRAL.—$2, semiannual, payable July 15 to holders of record June 28.

PENNSYLVANIA.—35c, quarterly, payable June 10 to holders of record May 8.

PITTSBURGH, FORT WAYNE & CHICAGO.—common, $1.75, quarterly; 7% preferred, $1.75, quarterly, both payable July 1 to holders of record June 10.

READING.—4% 1st preferred, 50c, quarterly, payable June 13 to holders of record May 23.

ROCHESTER & GENESEE VALLEY.—$2, semiannual, payable July 1 to holders of record June 20.

SOUTHERN.—70c, quarterly, payable June 14 to holders of record May 15.

WEST JERSEY & SEASHORE.—$1.50, semiannual, payable July 1 to holders of record June 14.

ANTIQUE . . . OR MODERN . . . ?

In furniture, some still prefer antiques. But in railroads, the trend is definitely toward modern. Sure sign of an up-to-date, progressive railroad—freight cars equipped with NAILABLE STEEL FLOORING.

The rugged strength of N-S-F* stands up under the heaviest loads and loading equipment, yet shows no strain—won't gap or splinter. In fact, N-S-F actually strengthens critical points of the underframe, can outlast the car itself. And don't forget, its skidproof surface provides easier loading, greater safety for personnel.

You'll profit in going modern and specifying N-S-F.

*N-S-F (TM): NAILABLE STEEL FLOORING

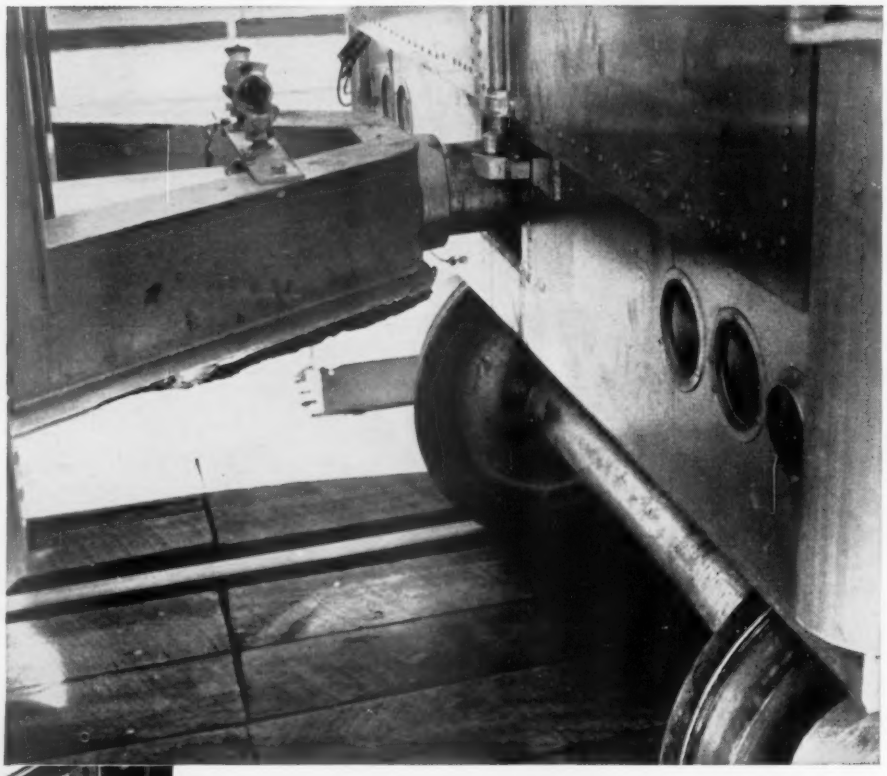
Made and sold by

STRAN-STEEL CORPORATION

Detroit 29, Michigan • Division of

NATIONAL STEEL CORPORATION

Complete engineering and cost data available from our representatives in Chicago, New York, Philadelphia, St. Louis, Cleveland, San Francisco, Minneapolis and Atlanta. In Canada, N-S-F is made and sold by International Equipment Co., Ltd., Montreal. 57-SS-20A



Yoloy "E" high strength-low alloy steel provides required strength with less weight to the Railvan's underframing. Coupled view is shown at right.

C & O's new Railvans shown below — with combination highway and railroad wheels mounted on a single spring suspension system — operate either on the highway or railroad tracks.

C & O USES YOLOY "E" IN "FIRST" RAILVAN

Chesapeake and Ohio's new Railvan utilizes truck trailers that operate either as long trains on railroad tracks or as single units on highways. Such equipment employs a unique combination of railroad and highway wheels mounted on a single spring suspension system.

Hot Rolled Yoloy "E" Sheets and Plates—fabricated by Binkley Manufacturing Co. and Visioneering Company of Cleveland—form the rugged underframe required for railroad rolling stock. The tubular center sill was produced from 5½" A.P.I. Drill Pipe.

Youngstown's family of Yoloy steels are produced to meet a wide range of applications, where high strength and corrosion resistance are of prime importance. Call us today for a Youngstown Service Engineer to discuss your problem. Free Yoloy literature is available.

QUALITY YOUNGSTOWN SERVICE

Write for these free pamphlets in The Yoloy Family series:

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High Strength Low Alloy Steel—standard applications

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High Strength Low Alloy Steel—special applications

YOLOY "S"
Higher Strength Steel for increased service life

YOLOY "C"
Corrosion Resistant Grade for deep forming

YOLOY PIPE
Continuous Weld for corrosion resistant applications

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WESTINGHOUSE — Mercury Arc. Ignitron 3/60/44,000 AC-15,000V. DC, Automatic Controls.
2—750KW, GE Rotary Converters-HCC-6-600V. DC.
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Includes number of tracks and types of retarders. Prepared by the Research Department of Railway Age.

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This index is an editorial feature, maintained for the convenience of readers. It is not a part of the advertiser's contract and Railway Age assumes no responsibility for its correctness.

Is 'Economy Fuel' Worth-While?

The Class I railroads spent $368 million for diesel fuel in 1956. If they could contrive to find practicable ways of using more economical grades of oil, and thereby reduce their fuel costs by no more than 1 cent per gallon—the saving would run close to $40 million. With such an attractive target to aim at, it is no wonder that many railroads are industriously searching for "economy fuels." If they were *not* doing so, *that* would be something to wonder about.

What Is "Economy Fuel" Anyhow?

The term "economy fuel" is not one which has a uniform and generally accepted definition. It might fairly be applied to any fuel which costs less than fuels which conform to the standards recommended by the locomotive manufacturers. If this definition be acceptable, then "economy fuel," at the top of the scale, could mean a distillate having practically all the characteristics of a high-grade fuel for domestic heating—except, perhaps, for a slight shading in price justified by a moderately lower cetane rating. Or, at the lower end of the scale, "economy fuel" could be considered to embrace a mixture of residual oils with distillate—a combination which, some railroads have found, gives acceptable performance at high temperatures. Some railroads provide themselves with dual supplies of diesel fuel on their locomotives. Such locomotives use higher grade fuel when engines are not working hard, and switch to the lower grade when sustained heavy pulling prevails, with consequent high temperatures.

There is a considerable spread in the prices paid by different railroads for diesel fuel—largely dependent on a road's location with reference to sources of supply, and the kinds of petroleum products being produced by its local refiners. In 1956 many of the larger roads in the Southwest paid an average of 9 cents or even less per gallon for their diesel fuel. In the East, the price appears to have averaged at least 1 cent more, with an even higher figure in some other local areas.

Not only is there variety in the prices and kinds of diesel fuels available to railroads in different sections of the country—there is, also, a great variety in the operating characteristics of different railroads.

Long straightaway pulls of heavy tonnage would make the use of admixtures of residual oils more likely to be practicable than such fuel would probably be on railroads characterized by a succession of relatively short ups and downs.

With such a range in prices, in quality of fuel available, and in railroad operating characteristics—it would be surprising indeed if any *one solution* to the "economy fuel" question were to be found, which would

THIS RELATES TO:

1—Challenging competition
2—Holding to high service standards
3—Increasing internal strength
4—Getting a higher level of earnings
● 5—Improving tools and methods
6—Seeking a friendlier environment

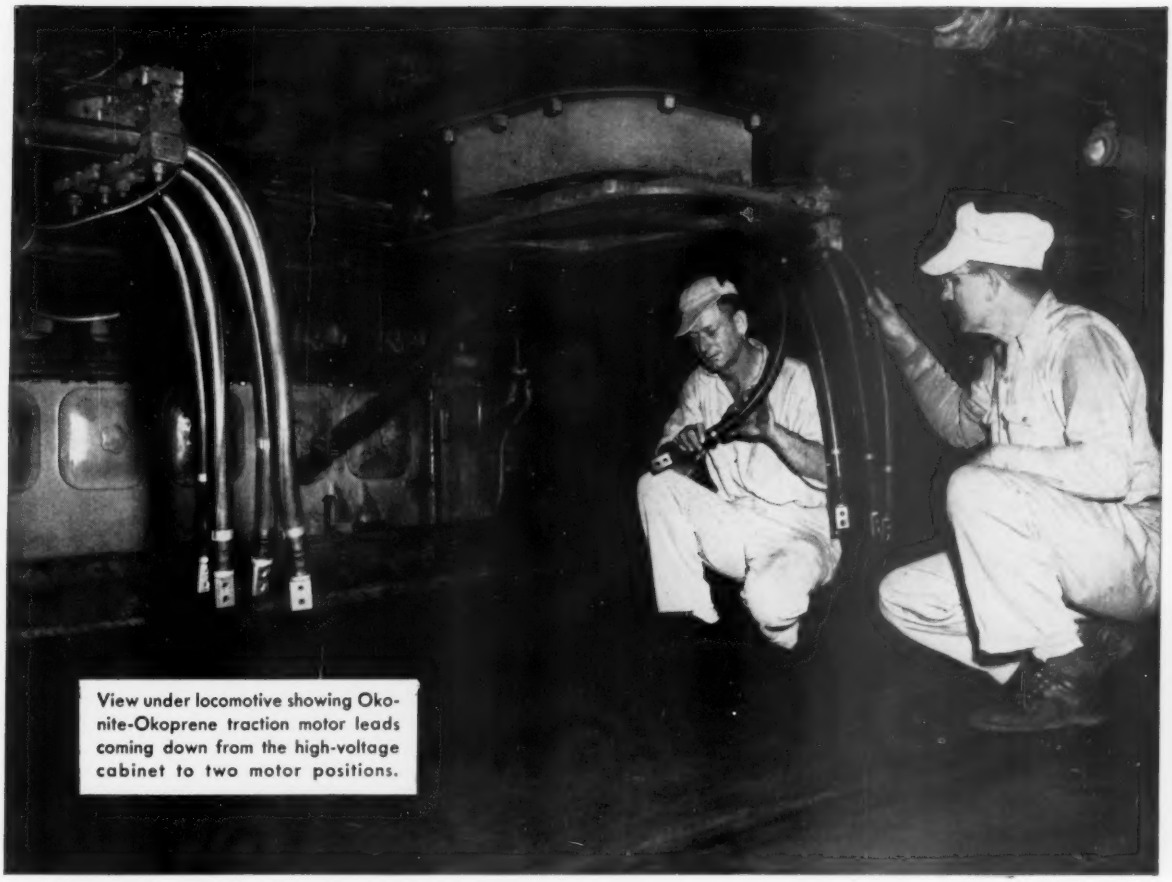
be applicable to all railroads alike. And, offsetting the savings from the use of any fuel of unproven quality, is always the possibility of higher expense for locomotive maintenance. Some railroads will undoubtedly find that in their particular situations the use of lower grades of fuel may involve expensive complications.

In short, this "economy fuel" matter appears to be one of those problems that every railroad is going to have to work out for itself—with the likelihood that the right answer may not be precisely the same for any two companies. Especially so, if the two railroads are located in different parts of the country—and have access to different sources of supply, and operate under different conditions. No railroad is likely to get the right answer by copying exactly what some other railroad is doing (i.e., not unless the road copied from is its immediate neighbor).

Learning From Others' Experience

But what one railroad *can* learn about "economy fuel" from other railroads is the lessons derived from the successes and failures that other railroads experience in their search for the answer. In other words, one railroad can't expect to learn from other roads precisely what its own solution should be—but it can learn a lot about *methods of experiment and analysis* which will yield the right answer in each particular case. The answers will differ, but best methods for determining what the right solution is, are likely to be pretty much the same in one territory as in another.

The most helpful role for an industry publication such as ours in this situation is to report the significant experience of individual railroads in their efforts to find the best solution to their own problems. That is the way we have been dealing with the locomotive fuel problem in our pages; and expect to continue. Readers will be the best judges as to what parts of the experience of individual roads are applicable to their own situations, and which are not.



View under locomotive showing Okonite-Okoprene traction motor leads coming down from the high-voltage cabinet to two motor positions.

SEABOARD rewires its diesels with **OKONITE-OKOPRENE** for 3 good reasons

When the Seaboard Air Line Railroad overhauled its Baldwin-Westinghouse diesel-electric locomotives, Okonite-Okoprene Type DEL cable was used throughout. The power, auxiliary and control cabinets were reworked and completely rewired in addition to the lighting and control circuits.

The three reasons why Seaboard engineers selected Okonite-Okoprene, Type DEL, were:

1. Tough, dense, heat-resistant insulation. Okonite insulation, a mineral base compound, has been specified by railroads for over 75 years because of its high insulation resistance, electrical stability and outstanding physical characteristics.

2. Moisture, flame, grease and oil-resistant sheath. Okoprene, a neoprene base compound, was introduced by Okonite to the trade in 1937. It has proved its mechanical ruggedness through use as the protective covering on portable cables used in such demanding applications as mining and quarrying operations.

3. Proved service record. These mold-cured cables, made by Okonite's exclusive strip-insulation process, were the first rubber-insulated, neoprene-sheathed diesel-electric locomotive cables. The fact that this type cable has now become the standard for wiring railroad diesels is proof of its reliability and durability.

Physical dimensions and electrical characteristics are given for Type DEL cable in Bulletin RA -1078—"Okonite Cables for Railroad Use." This manual also contains information on other types of cables for railroad use and is available upon request to The Okonite Company, Passaic, N. J.

3391-A

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The most modern cTc system in the world, Syncroscan can control more traffic over more miles of railroad faster, better, more economically, than any other system—and it's service proved!

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